

REVISION OF THE GENUS *STIGMODERA*, AND DESCRIPTIONS OF SOME NEW SPECIES OF BUPRESTIDAE (ORDER COLEOPTERA).

By H. J. CARTER, B.A., F.E.S.

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PLATES IX. AND X.

*STIGMODERA*, Escholtz.

More than most Australian families of the *Coleoptera*, the *Buprestidae* are in great need of revision; while of the *Buprestidae* the purely Australian genus, *Stigmodera*—numbering above 300 species of the most beautiful of our *Coleoptera*—has never been tabulated. There is, in consequence, much confusion arising from misidentification, synonymy, and *nomina nuda*. Twenty-three authors have described or named species, of whom, fortunately, the earlier writers—*e.g.*, Donovan, Kirby, and Castelnau and Gory—gave excellent figures, the monograph of the last two authors being a standard work of great value. Amongst later writers, Saunders gave figures not only of his own species, but of species of other authors identified by him. There is thus little difficulty in determining the majority of the species described by these authors. It is much to be regretted that later writers who have contributed most new names—*e.g.*, Thomson, Macleay, Blackburn, and Kerremans—have not published figures of their species, so that, where the types are not available for examination, there is some difficulty in determining the value of their species, unless they possess strongly differentiated characters. The work of Thomson is so casual, brief, and unscientific that the greater part is of little value. He seems to have taken little pains to acquire knowledge of the works of other authors on the subject. In consequence, as Kerremans has shown, a large number of his names are synonyms. Macleay's types are distributed between the Australian and the Macleay Museums in Sydney. I have been able to examine these. Moreover, many of the species described by Saunders were sent to him by Mr. G. Masters, late curator of the Macleay Museum, so that the named specimens in that Museum may in many cases be considered as co-types. Blackburn described fifty-five species, but with a tendency to insufficient allowance for variation, and sometimes with insufficient material. I find that no less than

seventeen of these must be considered as synonyms, or, at most, variations of previously-described species. Some of these have been indicated by himself, others were unfortunately published in papers which nearly synchronized with those by M. Kerremans, so that each of these writers sometimes repeated the work of the other. By the courtesy of Mr. Edgar R. Waite, of the South Australian Museum, and the co-operation of my friend, Mr. A. M. Lea, I have had the loan of a large number of specimens, including many of Blackburn's co-types, or specimens bearing labels in Blackburn's handwriting. This has been supplemented by similar help from Mr. Kershaw, of the National Museum, Melbourne, so that I have been able to determine with accuracy almost all the species named by this diligent entomologist. Further, a notebook containing the late Canon Blackburn's copious notes on various *Coleoptera* has been entrusted to me, in which is an outline of a tabulation of the genus *Stigmodera*. While not following the same method in my own tabulation, this has been of use in a few cases of species unknown to me. Besides the material mentioned above, all the unnamed or doubtfully-named specimens in the Macleay Museum, the Brisbane Museum, the Perth and Tasmanian Museums have been sent to me, together with the fine private collection of Mr. Lea. My own collection—largely taken by myself in twenty years' collecting in every Australian State, except South Australia, is a good one—and I am further indebted for specimens to Mr. C. French, Mr. H. W. Brown (the widest of our field collectors), and Mr. H. Hacker. In 1907 I visited the Museums of Brussels, Paris, and England, taking notes on specimens, especially in the Hope Museum, Oxford, and the British Museum (which last had recently purchased the fine collection of M. Kerremans), and I was thus able to compare specimens with many types. With this material I have ventured on a task that would otherwise have been insuperable, in the hope that the tabulation may render identification easier to collectors, and at the same time purge our catalogues of useless names. Probably some errors will occur, but at least this tabulation will afford a basis for future workers. Lastly, I would pay my homage to the great specialist in *Buprestidae*, M. Chas. Kerremans, whose cheery acquaintance I had the honour to make in 1907 and whose correspondence I have valued since. His standard work in the "Genera Insectorum" has been of great assistance to me, and I have, in part, followed his subdivision of the genus into the three subgenera mentioned below. Whatever be the value of these subdivisions zoologically, they are very helpful in classifying so large a genus. I had hoped to see the

completion of M. Kerremans's monumental monograph on the *Buprestidae* before attempting my tabulation, a work courageously continued throughout periods of ill-health. To this misfortune has now been added the martyrdom of his devoted country and the detestable German occupation, during which all correspondence has been impossible. I am sure that M. Kerremans will take an honest criticism in a generous spirit. Up to 1902 this author described some eighty-four Australian species of *Stigmodera*, of which twenty are confessed synonyms, partly through the synchronism with Blackburn's publications. To these I have added others below, in some cases confirmed by notes lately taken at the British Museum by Dr. E. W. Ferguson. In a few cases species placed together in my tabulation may not be synonymous. It is not sometimes possible to determine species *by description only*, especially when the descriptions omit important characters or *no following note shows the distinction between a new species and its nearest allies*. This should always accompany a description in so large a genus. While a European naturalist has the advantage of access to types and copious literature to hand, he has not generally the field experience and constant communication with collectors to enable him to decide questions of variation and distribution. This fact further emboldens me to attempt the work that follows.

**VARIATION.**—The variations of *Stigmoderae* are often so wide that it is always a dangerous supposition that an insect that looks at first sight unlike anything described is a new species. At the same time, while certain species seem liable to variation, a large number are singularly constant in colouration, pattern, and structure. These variations may be classified under:—(1) Size, (2) colour, (3) structure, (4) sex.

(1) *Size*.—While the majority of species will be found of a certain average size, remarkable instances occur in exceptional cases of dwarf or abnormally large specimens. Thus in the common species, taken around Sydney, I have before me *macularia*, Don., varying from  $33 \times 15$  mm. to  $21 \times 9$  mm.; *variabilis*, Don., from  $37 \times 15$  mm. to  $20 \times 8$  mm.; *jacquinoti*, Boisd., from  $30 \times 14$  mm. to  $19 \times 8$  mm.; *cyanicollis*, Boisd., from  $13 \times 4\frac{1}{2}$  mm. to  $7\frac{1}{2} \times 2\frac{1}{2}$  mm.

(2) *Colour*.—Here will be found the chief stumbling-block to the novice. Again it is the commoner and widely-distributed species which vary most. The well-named *variabilis*, Don., is a good example of this. Here the elytra may be a concolorous red or yellow, while the three dark fasciae and apical spot show every form of interruption or absence. The following are some of the species in which a similar variation has been noticed:—*mitchelli*, Hope (with



its many-named variations, *infra*); *garelli*, C. and G.; *semicincta*, C. and G. (with variety *variopicta*, Thoms.); *undulata*, Don.; *robusta*, Saund.; *ignota*, Saund.; *speciosa*, Kerr.; *dulcis*, Blackb.; *octospilota*, C. and G.; *punctiventris*, Saund.; *simulata*, C. and G.; *reichei*, C. and G.; *oleata*, Blackb.; *alexandri*, n. sp.; *regia*, Blackb. The presence or absence of shoulder spots is variable in *jekellii*, Saund.; *ignota*, Saund.; *skusei*, Blackb.; *punctiventris*, Saund.; and others. The absence or presence of yellow or red margin of the pronotum in the same species is rare, but nevertheless it seems to occur—i.e., if *stevensi*, Gehin. = *tibialis*, Waterh., the latter being generally without such a margin; but I am very doubtful of this synonymy. The width of this pale margin in species with a dark disc and wide margins is very variable—e.g., *thoracica*, Saund.; *latithorax*, Thom.; *vitticollis*, MacL.; *pictipes*, Blackb.; *tricolorata*, Waterh.; while some species vary in the amount of red colouration which takes the place of the usual metallic surface of the pronotum, as in *parryi*, Hope; *caroli*, Blackb. *Maculiventris*, MacL., is extremely variable in pattern; the type has the elytra orange-yellow, sanguineous towards apex, with a spot on the suture behind the scutellum, a postmedial fascia, and an apical patch dark-green; but the postscutellary spot is sometimes widened into a short fascia, there is often a wide preapical spot, sometimes shortly fasciate, while the suture is more or less widely dark. It is one of the largest of the subdivision *Castiarina*, having simple tarsal claws, and is wrongly placed with *Themognatha* in the "Genera Insectorum." The colour of the abdomen is variable, probably sexual, sometimes brassy-green with yellow spots at the sides; in other examples the abdomen is almost wholly yellow, the margins of segments only being green. The apex has a fringe of long yellow hair.

Melanism is of rare occurrence in the genus, but I have seen the variety of *variabilis*, Don., with the whole upper-surface black, except the yellow band to the prothorax, known as *nigripennis*, C. and G. What is more common is a tendency for the colour of the fasciae (in fasciated species) to spread more or less, sometimes wholly, over the surface of the elytra. Thus *cruentata*, Kirby, is an evident variety of *vegeta*, Hope. There is a wholly-blue specimen of *garelli*, C. and G., in the Macleay Museum, and Mr. H. W. Brown has two beautiful blue-green specimens of *conspicillata*, White, while there is a well-known variety of *cyanicollis*, Boisd., found in Victoria and Tasmania, which I believe is the species described as *viridis*, C. and G. It is possible that the charming little species described *infra* as *leai* may be another local variety of



this, but it should be named. Blackburn mentions an example of *undulata*, Don., illustrating the above tendency (*ante*, 1897, p. 32).

It is thus quite possible that *varicollis*, Cart., is a variety of *yarelli*, C. and G., though this appears to be a good example of geographical variation, in which every specimen has a more or less constant pattern that varies from the type found elsewhere. This remark is also true of *rufipes*, MacL., a red-legged North Queensland form of *octospilota*, C. and G. This kind of variation, or species in the making, obviously intensifies the difficulty of sharp definition in the tabulation in a genus in which colour is so prominent a feature. In a few species the colour of the underside is variable. This will be treated especially under sex variation, but in the much-described *punctiventris*, Saund. (= *binotata*, Saund. = *guttata*, Blackb., etc.) the underside is either yellow or coppery, while in species having more or less yellow on the under-surface the amount of such colouration is very variable. *S. decipiens*, Westw., is also variable in pattern.

(3) *Structural variation* (including sculpture and clothing).—The chief variations here will be noted under sexual variation; otherwise such variations are rare, and the best diagnosis of species can be made on structural characters. There are, however, two obvious cases that deserve mention.

(a) Width, or expansion of the sides of prothorax.

(b) Structure of the apices of the elytra.

In a few cases there are some considerable variations under (a)—*e.g.*, *klugi*, C. and G., often shows wide differences in the form of the prothorax (a fact to which Mr. G. S. Bryant called my attention when collecting in Sydney). This is true also of the species *parryi*, Hope, which in a long series I cannot distinguish from *parvicollis*, Saund. (b) The apices of the elytra form, in general, one of the best characters for the separation of allied species, and some authors believe this to be a constant character in the same species. There is, however, sufficient variation here to give cause for trouble (*vide* Blackburn, *ante*, 1900, p. 48, on *yarelli*). The examination of long series of *bicincta*, Boisd.; *octospilota*, C. and G.; *cupricollis*, Saund., and others, will show enough variation to make exact description difficult, the spines sometimes being subobsolete; where the type has distinct spines. Also many of the larger species, whose apex is more or less truncate with a short external spine (*e.g.*, *thoracica*, Hope; *variabilis*, Don.) show a variation towards the simply-rounded apex.

(4) *Sexual variation*.—The most marked sexual distinction lies in the form of the last abdominal segment, the male having this segment more or less excised (*e.g.*, *reichi*, C. and

G.), or merely truncate (*e.g.*, *macularia*, Don.), while that of the female is rounded. The male is generally smaller (markedly so in *imperialis*, n. sp.), narrower, and more attenuated behind. In some species (*e.g.*, *chevrolati*, Gehin.; *reichei*, C. and G.) the female has a finely-forked ovipositor, to be found in many others only by dissection. I have not observed the sexual variation in density of punctures, noted by Blackburn, except perhaps in *pubicollis*, Waterh., in which the male has the thorax densely clothed with long hairs, the female having only a slightly pubescent surface. In such cases the density of hair is accompanied by a corresponding coarseness of sculpture. A more obvious sexual variation occurs in a few species in the colour of the abdomen. Thus in *alternata*, Lumh., the largest and most beautiful of the section *Castiarina*, the male has a yellow abdomen, while that of the female is dark-green, with lateral yellow spots; similarly with *maculiventris*, Macl. In *jekelli*, Saund., and *cruenta*, C. and G., the male has a yellow, while the female has a dark metallic abdomen. In *immaculata*, Cart., the pronotum and whole underside of the male is bright metallic-green, the corresponding parts of the female being brilliant-golden-copper. In *imperialis*, n. sp., the male is not only much smaller than the female, but the elytra are without the fascia found in the female. In the nearly-related species, *duboulayi*, Saund., and *macfarlanei*, Waterh., the male has one fascia, the female two fasciae, besides the dark apex to the elytra. In *conspicillata*, White, the male has only the apex of a dark colour, while the female has two fasciae as well as the apex so coloured.

*S. oleata*, Blackb.—Mr. H. W. Brown has taken a long series of this fine species at Yalgoo, Western Australia, of which seven specimens are before me—two male, five female. The author evidently had some doubt as to the male specimen described by him being conspecific with the female by his note of interrogation affixed thereto. I have little doubt that the male so described is that of another species, while there is some doubt as to his diagnosis of the sex of the female specimen described. I therefore append notes on the colour markings of the specimens before me.

- ♂. (a) Head, legs, and underside blue-black, the last three segments of abdomen red with dark margins; prothorax orange-red with narrow basal margin dark; elytra blue-black with medial fascia expanded laterally and wide preapical fascia connected narrowly at sides with the former orange-red, also a few small orange spots near basal margin.

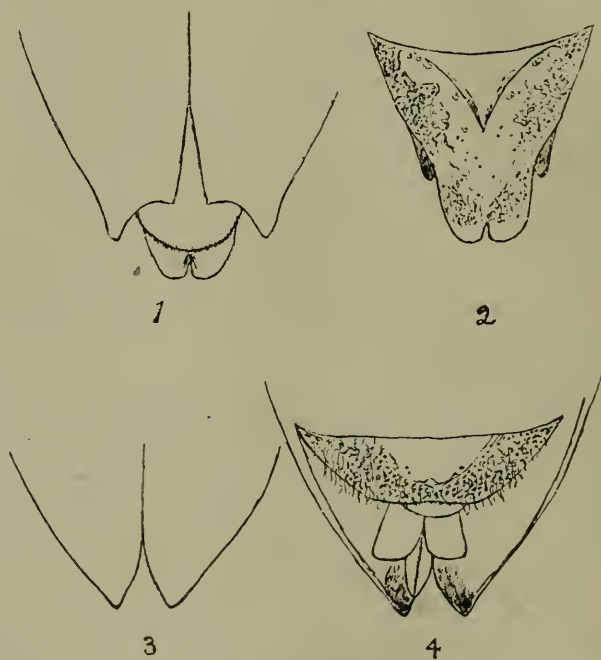
♂. (b) As in (a), except prothorax with apical half suffused with darker markings, elytral orange fasciae not connected laterally, abdomen entirely dark (metallic blue and green).

♀. (a) Two specimens as in the description of the male by Blackburn (the whole blue-black, elytra with red preapical fascia).

♀. (b) Two specimens have an additional medial fascia orange-red, narrower than in the male, and widely interrupted at the suture.

♀. (c) One specimen, elytra as in (b), but the prothorax has a vague transverse red band near the base.

*S. sanguinosa*, Hope.—In this species there is a marked sexual dimorphism in the structure of the apices of the elytra and of the last segment of the abdomen. In the male the



SEXUAL VARIATION OF APICES OF ELYTRA AND ABDOMEN OF  
*Stigmodera sanguinosa*.

Fig. 1. Apex of elytra of female. Fig. 2. Apical segment of abdomen of female. Fig. 3. Apex of elytra of male. Fig. 4. Apical segment of abdomen and part of aedeagus of male.

elytra are prolonged considerably beyond the abdomen, while in the female the reverse is the case. The last abdominal segment in the latter is bilobed, while it is truncate in the male. The quite different structure of the apices of elytra,



simply pointed in the male, bidentate in the female, is very unusual. I do not know a similar case in the whole genus.

I have noted in the tabulation special cases of variation as they occurred, for convenience of reference.

*Distribution*.—While the genus is exclusively peculiar to Australia and adjacent islands, the species are extraordinarily freakish in their distribution. A few species are very widely scattered, almost over the whole continent, while the majority are found in a quite limited habitat. Of the larger species I know only one, *mitchelli*, Hope, that is found in every one of the States; while *macularia*, Don., *variabilis*, Don., occur over the whole of the eastern side of the continent. Of the smaller species, the following are known to me as occurring in every State:—*Amphichroa*, Boisd.; *burchelli*, C. and G.; *cyanicollis*, Boisd., and its varieties; *iospilota*, C. and G.; *8-spilota*, C. and G.; *10-maculata*, Kirby, and *rufipennis*, Kirby. The country extending from north-west Victoria to the extreme west of Western Australia can only be considered as one faunal area, and many of the Western Australian forms occur over a great part of this area. I have received specimens of *simulata*, C. and G.; *robusta*, Saund.; *jekelli*, Saund.; *sanguineolenta*, C. and G.; *pallidiventris*, C. and G., from widely-separated places in this great area, extending as it does over thirty degrees of longitude. Besides the above, there are a few species—e.g., *undulata*, Don.; *bicincta*, Boisd.; *crenata*, Don.; *8-maculata*, Saund.—that occur over the whole of eastern Australia. A large number, possibly the greater number of species, are very local in their occurrence, and collectors will often speak of limited regions where one rare species is known only to be found. Thus *cydista*, Rainb., has only been found in a limited district near Sydney, while Mr. Brown's captures in the Cue district show species unknown elsewhere.

#### SYNONYMY.

I have placed *var.* only before those names which ought, in my opinion, to be retained for certain constant forms, sometimes peculiar to certain districts, and which may in some cases prove to be distinct species, but which differ from the typical form. Thus *S. rufipes*, Macl., is a Queensland variety of *octospilota*, C. and G., having red femora. Again, under that much-described species, *mitchelli*, Hope, besides the *faux pas* of M. Thomson, occur *var.* 1, *quadrispilota*, Saund. (a robust large form peculiar to Western Australia); *var.* 2, *tasmanica*, Kerr (a small Tasmanian form); *var.* 3, *karattae*, Blackb. (a variable form from Kangaroo Island, Victoria, and southern New South Wales, generally smaller and darker than the typical form).

I have placed under the tabulation all the synonyms known or considered as such by me; but in the list immediately following this are placed only such synonyms as have not been so far published.

## THEMOGNATHA.

1. *parryi*, Hope (= *fusca*, Saund. = *parvicollis*, Saund. = *major*, Waterh. = *picea*, Kerr.).
2. *sanguineocincta*, Saund. (= *alcyone*, Thoms. = *coelestis*, Thoms.).
3. *sanguinipennis*, C. and G. (= *cincticollis*, Kerr.).
4. *exerciscollis*, Macl. (= *addenda*, Thoms. = *sincera*, Kerr.).
5. *haematica*, Hope (= (?) *clara*, Kerr.).
6. *affinis*, Saund. (= *limbata*, C. and G. = *adelphe*, Thoms.).
7. *sanguinea*, Saund. (= *pictiventris*, Kerr. = *cyauiventris*, Kerr. = *avuncularis*, Thoms.).
8. *donovani*, C. and G. (= *jansoni*, Saund.).
9. *rectipennis*, Blackb. (= *apicerubra*, Kerr.).
10. *reichei*, C. and G. (= *funerea*, White = *marmorea*, Blackb.).
11. *vitticollis*, Macl. (= *delia*, Thoms. = *fallaciosa*, Kerr.).
12. *mittelli*, Hope (= *stricklandi*, Hope = *daphnis*, Thoms. = *ostentatrix*, Thoms. = var. 1, *quadrispilota*, Saund. = var. 2, *tasmanica*, Kerr. = var. 3, *karattae*, Blackb.).
13. *garelli*, C. and G. (= var. 1, *flavipennis*, Gehin. = var. 2, *elegans*, Gehin. = var. 3, *varicollis*, Cart.).
14. *flavicollis*, Saund. (= *S. uncinata*, Saund.).

## CASTIARINA.

15. *impressicollis*, Macl. (= *costalis*, Saund.).
16. *moribunda*, Saund. (= (?) *dispar*, Blackb.).
17. *punctiventris*, Saund. (= *guttata*, Blackb. = var. *minor*, Blackb. = var. *ignea*, Blackb.).
18. *atronotata*, Waterh. (= *guttaticollis*, Blackb. = *consularis*, Kerr.).

NOTE.—*minor*, Blackb., is wrongly placed under *guttaticollis* by Kerremans (Gen. Ins., p. 207).

19. *septemnotata*, n. nom. (= *septemmaculata*, Blackb.; the latter name is preoccupied by Mannerheim for a synonym of *spilota*, C. and G.).
20. *producta*, Saund. (= *acutipennis*, Thoms. = (?) var. *sulcicollis*, Kerr.).
21. *delta*, Thoms. (= (?) *deceptor*, Kerr.).
22. *hilliputana*, Thoms. (= *Neocuris mastersi*, Macl. = *ocularis*, Kerr. = (?) *dawsonensis*, Blackb.).

23. *semicineta*, C. and G. (=var. *variopicta*, Thoms.).
24. *laena*, Thoms. (=var. *electa*, Kerr.).
25. *versicolor*, C. and G. (=decemguttata, Gory.=parva, Saund.).
26. *decemmaculata*, Kirby (=inaequalis, Kerr.).
27. *picta*, C. and G. (=purpurea, Hope=var. *laetabilis*, Kerr.).
28. *pallidiventris*, C. and G. (=var. *cineta*, Blackb.=rubro-cineta, Kerr, n. praeoc.).
29. *elderi*, Blackb. (=rustica, Kerr.=diversa, Kerr.).
30. *andersoni*, C. and G. (=var. *verax*, Kerr.).
31. *mastersi*, Macl. (=var. *deleta*, Kerr.).
32. *distincta*, Saund. (=sternalis, Blackb.=deliciosa, Kerr.=var. *baliola*, Kerr.=var. *inermis*, Kerr.).
33. *fulviventris*, Macl. (=guttigera, Blackb.).
34. *auricollis*, C. and G. (=ochreiventris, Saund.=strigata, Macl.).
35. *wilsoni*, Saund. (=var. *sigma*, Kerr.).
36. *confusa*, Waterh. (=agrestis, Kerr.).
37. *anchoralis*, C. and G. (=arborifera, Blackb.).
38. *simulata*, C. and G. (=helenae, Hope=var. *phryne*, Thoms.=var. *lais*, Thoms.=var. *triramosa*, Thoms.=distinguenda, Thoms.=fraterna, Kerr.).
39. *ignota*, Saund. (=var. *semisuturalis*, Saund.).
40. *abdominalis*, Saund. (= (?) var. *unica*, Kerr.).
41. *tricolor*, Kirby (=curta, Saund.=opima, Kerr.).
42. *humeralis*, Kerr (=tillyardi, Cart.).
43. *gibbicollis*, Saund. (=fascigera, Kerr.).
44. *cyanipes*, Saund. (=armata, Thoms.=longula, Blackb.).
45. *cupricollis*, Saund. (=alterzona, Thoms.=deyrollei, Thoms.=julia, Thoms.).
46. *trifasciata*, C. and G. (=apicalis, C. and G.=tacita, Kerr.).
47. *affabilis*, Kerr. (=simplex, Kerr.).
48. *vegeta*, Hope (=coeruleiventris, Saund.=haroldi, Saund.=viridiventris, Saund., var. *cruentata*, Kirby=neologa, Thoms.= (?) coerulea, Kerr.=coelestis, Kerr.=stillata, Blackb.).
49. *crenata*, Don. (=kreffti, Macl.=variata, Kerr.).
50. *rubriventris*, Blackb. (=maculifer, Kerr.).
51. *burchelli*, C. and G. (=perplexa, Hope=languinosa, Hope=hostilis, Blackb.).
52. *sagittaria*, C. and G. (=gravis, Har.=obscuripennis, Saund.).
53. *amphichroa*, Boisd. (=sexspilota, C. and G.=sieboldi, C. and G.=cylindracea, Saund.=bucolica, Kerr.).



- 54. *hopei*, Saund. (= *burchelli*, Hope = *placida*, Thoms.).
- 55. *punctatosulcata*, Saund (= *litigiosa*, Kerr.).
- 56. *obscura*, Saund. (= var. *transversipicta*, Thoms.).
- 57. *alternecosta*, Thoms. (= *alacris*, Kerr. = *quadrinotata*, Blackb.).
- 58. *scalaris*, Boisd. (= *cyanicollis*, Boisd. = *subtrifasciata*, C. and G. = *media*, Hope = *crucigera*, C. and G. = *prudens*, Kerr.).
- 59. *flavovaria*, Saund. (= *flavopicta*, C. and G. = *timida*, Kerr.).
- 60. *violacea*, Macl. (= *cupreoflava*, Saund. = *equina*, Blackb.).
- 61. *puerilis*, Kerr. (= var. *atrocoerulea*, Kerr.).
- 62. *rotundata*, Saund. (= (?) var. *aeneicornis*, Saund.).

#### NOTES ON SYNONYMY.

(1) I have examined a large number of specimens labelled *parryi*, Hope, and *parvicollis*, Saund., and have carefully compared them with descriptions. While extreme cases are very different in size, and vary as to the amount of dark colouration on the pronotum, I have not been able to draw any definite line between the two names. The other synonyms have been already noted by Kerremans.

(2) (3) (4) (6) (7) I see no reason for the various names under these to mark minute differences scarcely amounting to variation.

(5) The description of *clara*, Kerr., would exactly correspond to a specimen of *haematica*, Hope, in which the blue colour extended over the whole abdomen; I have seen examples in which this is very nearly the case, the amount of red or blue on the underside being very variable.

(8) *S. donovani*, C. and G. = *jansonii*, Saund. There can be little doubt of this from a study of the figures and descriptions.

(9) The description of *apicerrubra*, Kerr., exactly corresponds with my co-type of *rectipennis*, Blackb.

(10) *S. reichei*, C. and G., is very variable. Blackburn himself thought that *marmorea* was a synonym.

(11) I cannot see anything in the description of *fallaciosa*, Kerr., to distinguish it from *vitticollis*, Macl., a common Northern and Central Australian species, subject to wide variation. Dr. E. W. Ferguson informs me that there is some confusion between the names *vitticollis*, Macl., and *sexmaculata*, Saund., in the Brit. Mus. Coll., but these are widely different species.

(12) *S. mitchelli*, Hope, shares with *variabilis*, Don., the distinction of being the most variable in a variable genus.

I have little doubt of the synonymy of the seven names.

(13) After my recent experiences in the examination of long series, I am compelled to include *varicollis*, Cart., as a variety of *yarelli*, C. and G., though the name should stand for this local form, of which Mr. Duboulay took a large number, all more or less marked as stated in its description.

(14) I agree with Blackburn that *unicincta* is the male, *flavicollis* the female, of the same species.

(15) Saunders' figure and description of *costalis* proclaim its identity with *impressicollis*, Macl., a fairly common Queensland insect.

(16) I am a little doubtful here. There is a slight colour difference, as the suture and apex of *moribunda* are said to be narrowly black, this marking being absent from *dispar*, Blackb. This variation is so common in analagous cases—e.g., *rufipennis*, Kirby, that I think I am justified in giving this synonymy.

(17) I have seen many specimens which include all these names and which form continuous series.

(18) (25) (26) (27) (30) (32) (35) (41) (43) (46) (47) (55) (56) (60) In all these cases Dr. E. W. Ferguson has been kind enough to confirm my own impressions by an examination of types in the British Museum. As regards (32), I have previously published the synonymy of *sternalis*, Blackb., with *distincta*, Saund. Dr. Ferguson's note on *inermis*, Kerr., states:—"There were two spp. included under *inermis*, both marked types; one=*distincta*, Saund.=*deliciosa*, Kerr.; the other=*nova*, Kerr.; *baliola* seems little more than a colour variety of *distincta*, Saund., with broader bands and basal elytral border."

(20) I have followed Kerremans in placing *acutipennis*, Thoms.=*producta*, Saund., though the former name has been long given in Australia to the species described as *insignis*, Blackb.

(21) *S. delta*, Thoms (*vide* note in tabulation).

(22) I am only slightly in doubt as to the correct inclusion of *dawsonensis* in this; but there is only a slight colour difference, the addition of an apical spot on each elytron, and this variation is common in other species.

(23) *S. variopicta*, Thoms. This form is well known to collectors as a variety of *semicincta*, C. and G. I have taken the two forms in company frequently, at Medlow, Blue Mountains.

(24) *S. electa*, Kerr., cannot be more than a variety of *laena*, Thoms.

(28) See note in the tabulation.

(29) (31) From descriptions and examination of many specimens, including co-type of *elderi*, Blackb., and the type of *mastersi*, Macl.

(33) Co-type of *guttigera* compared with type of *fulviventris*, Macl.

(34) Type of *strigata*, Macl., compared with figures and descriptions of *auricollis* and *ochreiventris*.

(36) More than probable.

(37) A co-type of Blackburn's *arborifera* is identical with the very common Perth species, *anchoralis*.

(38) One of the most variable of the smaller species. Extreme forms are very different in pattern, but all have the same general colour scheme and robust obese form (*fraterna* was merely a name to supply the preoccupied *distinguenda*).

(39) *S. semisuturalis*, Saund., is a well-known varietal form of *ignota*, Saund., to collectors. I have taken them together in the Blue Mountains.

(40) *Vide* note in tabulation.

(42) I confess to a blunder here, due to my not having then seen M. Kerremans' fine work (*Genera Insectorum*.)

(43) M. Kerremans was mistaken in placing *gibbicollis*, Saund., as synonymous with *grata*, Saund. The species are quite distinct. This no doubt accounts for his redescription of *gibbicollis* as *fascigera*, Kerr.

(44) I have already published the synonymy of *longula*, Blackb., with *cyanipes*, Saund.; *armata*, Thoms., described as from Sydney, is no doubt the same species. It is rare in the Sydney district, though occurring at Ropes Creek and in the Blue Mountains.

(45) Slight colour varieties, chiefly in the prothorax and underside.

(48) *S. cruentata*, Kirby, is the oldest of the names, but the pattern of *vegeta*, Hope, is the common one. I am a little doubtful as to the identity of *coelestis* with the above; *stillata* was a name given by Blackburn for *coelestis*, Kerr., the latter name being preoccupied by Thomson. There is no reason for placing *stillata* as a synonym of *laena*, Thoms., as M. Kerremans has done (*Genera Insectorum*).

(50) *S. rubriventris*, Blackb., was described from Western Australia. There is a New South Wales species very near, if not identical with it, but generally larger. It is possible that this is the form described as *maculifer*, Kerr.

(51) *S. hostilis*, Blackb. I have examined a co-type of this in the South Australian Museum collection, labelled by Blackburn. The apex of one elytron is slightly malformed or damaged; the other apex is perfect and ordinarily bispinose. As this is the only or main distinction between this and



*burchelli*, I conclude that Blackburn was misled by the malformation.

(52) Is my conclusion from figures and descriptions.

(53) (54) Common species that include all the names noted.

(57) The synonymy of *alacris*, Kerr., with *alternecosta*, Thoms., has been published by M. Kerremans himself. A co-type of *quadrinotata*, Blackb., in the South Australian Museum shows the same insect. A species I often used to find near Cook River, Canterbury (near Sydney).

(58) The commonest insect of the whole genus, with a corresponding variation, which I believe includes the names given.

(59) (61) I feel sure of the synonymy, from descriptions.

(60) *S. equina*, Blackb. Type in National Museum, Melbourne, examined by me and found identical with type of *violacea*, Macl. The suggestion of mine that *cupreoflava*, Saund., was the same was confirmed by Dr. Ferguson.

In the following tabulation an asterisk (\*) is placed against species unknown to me. This tabulation is put forward with some diffidence, and is probably not without error. The difficulties can be partly estimated by the following statement of the numbers of names so far catalogued:—

	No. of species in tabulation.	No. of names catalogued.
A. <i>Stigmodera</i>	8	15
B. <i>Themognatha</i>	69	121
C. <i>Castiarina</i>	241	386
	<hr/>	<hr/>
Total	318	522
	<hr/>	<hr/>

In other words that 204, out of 522 names, should be either sunk as synonyms or treated as variations; a formidable list with which to make oneself familiar. M. Kerremans gave 345 species in the Genera Insectorum, and I find that four species were then omitted—*viz.*, *subpura*, Blackb.; *tyrrhena*, Blackb.; *pallās*, Blackb.; and *erubescens*, Blackb. If my tabulation is correct there are thus 318 existing species, of which 31 are here described as new.

The species can be divided into subgenera as follows:—

1. Elytra pitted with large foveate punctures (also striate-punctate in *cancellata*, Don.)—A. *STIGMODERA*, Eschs.
- 2-4. Elytra striated or striate-punctate, the intervals sometimes costate.
3. Tarsal hooks lobed or toothed at the base—B. *THEMOGNATHA*, Sol.
4. Tarsal hooks simple—C. *CASTIARINA*, C. and G.

## SUBGENUS A. Table of STIGMODERA, elytra pitted.

- 1-9. Elytra without coloured fasciae.
- 2-6. Elytra yellow.
3. Elytral foveae small, more or less concolorous with elytra apex widely bidentate—*goryi*, C. & G.; *curtisi*, Hope.
- 4-6. Elytral foveae large and black.
5. Apex of each elytron simply rounded—*macularia*, Don.; *cicatricosa*, Dalm.
6. Apex of each elytron bispinose (with oblique excision)—*jacquinoti*, Boisd.
7. Elytra brown-red, foveae black, apex subtruncate—*porosa*, n. sp.
8. Elytra red, foveae green, apex dentate—*sanguinosa*, Hope.
9. Upper surface brilliant golden-green—*gratiosa*, Chev.; *smaragdinea*, Hope.
- 10-12. Elytra with coloured fasciae.
11. Thorax and underside brilliant coppery-green—*roei*, Saund.; *cancellata*, Boisd.; *vescoei*, Gehin.
12. Thorax and underside dull-blue or green—*cancellata*, Don.; *dejeani*, Hope; *dejeaniana*, Boisd.

NOTE.—The geographical distribution of the above is curious, the first four species being peculiar to the eastern side, the last four to the western side of Australia.

## SUBGENUS B. THEMOGNATHA, elytra striate, tarsal hooks lobed or toothed at base.

- 1-3. Tibiae enlarged and toothed on the external border.
2. Prothorax with yellow margins, abdomen yellow—*duponti*, Boisd.; *stevensi*, Gehin.
3. Prothorax concolorous, abdomen bronze—*tibialis*, Waterh.
- 4-117. Tibiae normal.
- 5-71. Elytra without coloured fasciae.
- 6-23. Elytra entirely red or yellow.
- 7-15. Prothorax concolorous.
- 8-10. Prothorax red (sometimes with bronzy reflections).
9. Alternate intervals of elytra costate—*heros*, Gehin.
10. Intervals regularly convex—*parryi*, Hope; *fusca*, Saund.; *parvicollis*, Saund.; *major*, Waterh.; *picea*, Kerr.
11. Prothorax bronze—*chalcodera*, Thoms.
- 12-14. Prothorax brassy-green.
13. Abdomen chiefly yellow—*brucki*, Thoms.
14. Abdomen brassy-green—*sanguineocincta*, Saund.; *alcyone*, Thoms.; *coelestis*, Thoms.
15. Prothorax black—*aestimata*, Kerr.
- 16-23. Prothorax with red or yellow margins.
- 17-19. Disc of pronotum black.
18. Margins of pronotum red, underside blue—*sanguinipennis*, C. and G.; *cincticollis*, Kerr.
19. Margins of pronotum yellow, underside black—*flavomarginata*, G. and H.; *cruentata*, Murray.
- 20-22. Prothorax green, with red margins.
21. Elytral apices simple—*menalcas*, Thoms.
22. Elytral apices strongly bispinose—*lobicollis*, Saund.

23. Prothorax red, with narrow central part black, abdomen red—*haematica*, Hope; (?) var. *clara*, Kerr.
- 24-53. Elytra red or yellow, suture or apex, or both with dark markings.
- 25-33. Prothorax concolorous.
- 26-28. Pronotum and underside blue.
27. Suture and sides generally with wide blue vittae—*suturalis*, Don.; *vertebralis*, Boisd.
28. Suture (partly) and apex only dark—*franca*, n. sp.
- 29-33. Pronotum and underside green.
- 30-32. Apices of elytra truncate.
31. Base, suture, and apex of elytra blue (apical mark rarely absent)—*similis*, Saund.
- \*32. Base and suture of elytra green, size smaller than *similis marcida*, Blackb.
33. Apices of elytra strongly hispinose—*excisicollis*, Macl.; *addenda*, Thoms.; *sincera*, Kerr.
34. Pronotum bronze (sometimes more or less red)—*caroli*, Blackb.; *capucina*, Blackb.
- 35-51. Prothorax with red or yellow margins.
- 36-38. Red margins as wide as or wider than discal colour.
37. Alternate intervals of elytra subcostate and narrowed—*latithorax*, Thoms.
38. Intervals of elytra uniform—*thoracica*, Saund.; *atalanta*, Thoms.
- 39-51. Margins of prothorax narrower than discal colour.
- 40-49. Disc of pronotum metallic-green, sides of elytra sanguineous.
- 41-43. Underside entirely green.
42. Sutural markings continuous from base to apex without notable enlargement—*limbata*, Don.
43. Sutural marking commencing behind base, with irregular widenings—*affinis*, Saund.; *limbata*, C. and G.; *adelphe*, Thoms.
- 44-48. Underside (in part at least) yellow.
45. Elytral suture green, abdomen with yellow spots, last segment with red bands—*sanguinea*, Saund.; *pictiventris*, Kerr.; var. *cyaniventris*, Kerr.; *avuncularis*, Thoms.
- 46-48. Apices of elytra strongly hispinose, margins of elytra not dark.
47. Sides of prothorax angularly widened, margins of pronotum and elytra red—*viridicincta*, Waterh.
48. Sides of prothorax rounded, their margins and elytra clear yellow—*donovani*, C. and G.; *jansoni*, Saund.
49. Apices of elytra truncate, margins of elytra blue-black—*lessoni*, C. and G.; *acutithorax*, Thoms.
50. Disc of pronotum and apical half of elytra coppery-red—*pascoei*, Saund.
- \*51. Disc of pronotum and apex of elytra bronzy—*sanguiniventris*, Saund.
52. Disc of pronotum blue, margins irregularly red—*notaticollis*, n. sp.
- \*53. Disc of pronotum red, margins bronzy—*wimmerae*, Blackb.
- 54-62. Elytra brown, piceous, or black, lateral margins more or less yellow.
- 55-61. Prothorax with yellow or red margins.



- 56-58. Head and underside abnormally pilose.
57. Form oval, apices of elytra simple, pronotum strongly pilose in male—*pubicollis*, Waterh.; *lateritia*, Thoms.
58. Form navicular, apices strongly hispidose, pronotum not pilose—*barbiventris*, n. sp.
- 59-62. Head and underside normally pubescent.
60. Elytra reddish-brown, disc of pronotum black—*flavocincta*, C. and G.
61. Elytra brownish-black, disc of pronotum bronze—*grandis*, Don.
62. Pronotum mottled red and black, not margined—*gigas*, n. sp.
- 63-71. Elytra dark-blue or black, apex sanguineous (except in 71).
- 64-68. Prothorax concolorous.
65. Elytra (except apex) and underside black—*princeps*, Blackb.
- 66-68. Elytra (except apex) blue (or greenish).
67. Form elongate, apex widely red—*bonvouloiri*, Saund.
68. Form shortly ovate, apex narrowly red—*obscuripennis*, Mannerh.; *rugosipennis*, Thoms.
- 69-71. Prothorax margined more or less red.
70. Elytra blue, apex red, apical segments of abdomen red—*rectipennis*, Blackb.; *apicerubra*, Kerr.
71. Apex of elytra concolorous with rest, margins interruptedly red—*rufocyanea*, n. sp.
- 72-117. Elytra (in general) fasciated.
- 73-82. Prothorax concolorous (at least with no defined yellow or red margins).
74. Upper-surface nitid dark-green, underside black, elytra with a single preapical fascia red—*mnischechi*, Saund.
75. Whole surface brilliant-green, elytra with basal and preapical fascia yellow—*saundersi*, Waterh.; *obesissima*, Thoms.
- 76-80. Pronotum bronze or coppery.
77. Underside black, elytra black with irregular fasciae yellow—*reicheti*, C. and G.; *funerea*, White; *mar-morea*, Blackb.
- 78-82. Underside (or at least the abdomen) yellow.
79. Elytra with 3 black fasciae, apex sanguineous (pronotum sometimes with irregular orange spots near margin)—*murrayi*, G. and H.; *trifasciata*, Murray; *imperatrix*, Thoms.
80. Elytra with 2 fasciae and apex blue-black, underside blue—*spencei*, C. and G.; *egregia*, Boh.; *sternoceroides*, Thoms.
81. Pronotum blue, elytra with 3 fasciae and apex blue—*congener*, Saund.
82. Pronotum green, irregularly mottled yellow, elytra with one fascia and apex violet—*chevrolati*, Gelin.; *imperatrix*, White; *imperator*, Thoms.
- 83-85. Pronotum yellow (sometimes with dark discal markings), abdomen more or less yellow.
- \*84. Elytra with one fascia, shoulder, and subapical spot black, apices hooked—*martini*, Saund.
85. Elytra with one fascia and subapical spot blue, apex rounded—*flavicollis*, Saund.; *unicincta*, Saund.

86. Pronotum red with base, apex, and discal spot green, elytra with short fascia and apex green—*carpentariae*, Blackb.
87. Pronotum with sexual difference in colour, male orange, female blue-black (sometimes with red or orange basal band), underside black—*oleata*, Blackb.
- 88-113. Prothorax with yellow or red margins.
- 89-95. Yellow margins as wide or wider than dark disc.
- 90-94. Elytra with one fascia and apex blue.
91. Legs variegated, femora yellow, tibiae green—*pictipes*, Blackb.
92. Legs concolorous.
93. Whole abdomen yellow (24-29 mm. long)—*tricolorata*, Waterh.
94. Apical segments only yellow (36-42 mm. long)—*vitticollis*, Macl.; *delia*, Thoms.; *fallaciosa*, Kerr.
95. Elytra with basal margin and short fascia blue (male nonfasciate)—*imperialis*, n. sp.
- 96-113. Yellow or red margins of prothorax not as wide as dark disc.
- 97-99. Elytra with sexual colouration, male with one, female with two fasciae, and apex blue.
98. Disc of pronotum brilliant-copper, punctures small and sparse—*duboulayi*, Saund.
99. Disc of pronotum less nitid, punctures large and close—*macfarlani*, Waterh.
- 100-113. Elytra without sexual colouration.
- 101-108. Size large (more than 30 mm. long).
- 102-106. Disc of pronotum black (or nearly so).
- 103-105. Elytra with 3 yellow fasciae.
104. Elytra with preapical red spots, besides fasciae—*regia*, Blackb.
105. Elytra without preapical spots—*fortnumi*, Hope.
106. Elytra with 2 (widely interrupted) yellow fasciae—*sermaculata*, Saund.
107. Disc of pronotum green, fasciae variable or absent—*variabilis*, Don.; *kingi*, W. S. Macl.; var. *nigripennis*, C. and G.; *unifasciata*, C. and G.
108. Disc of pronotum blue, elytra with 1 fascia and apex blue—*westwoodi*, Saund.
- 109-113. Size smaller (less than 20 mm. long).
- 110-112. Dark colour predominating on elytra.
111. Pronotum obscure green or blue, coarsely punctate—*mitchelli*, Hope; *stricklandi*, Hope; *daphnis*, Thoms.; *ostentatrix*, Thoms.; var. 1, *quadrispilota*, Saund.; var. 2, *tasmanica*, Kerr.; var. 3, *karattae*, Blackb.
112. Pronotum brilliant-green, sublaevigate—*laevicollis*, Saund.
113. Yellow colour predominating on elytra, pronotum blue, elytra with 3 fasciae, and apex blue—*garelli*, C. and G.; var. 1, *flavipennis*, Gehin.; var. 2, *elegans*, Gehin.; var. 3, *varicollis*, Cart.
- 114-117. Margins of pronotum with one or more yellow blotches.
115. Size very large (42 mm. long), pronotal blotch near hind angles—*gloriosa*, n. sp.
116. Size smaller (28-32 mm. long), pronotal blotch obliquely invading disc; male apex only violet, female with 2 fasciae and apex violet—*conspicillata*, White; *signaticollis*, Hope; *cyanura*, Hope.

117. Size 20-23 mm. long, pronotal spot not invading disc-elytra with postmedial fascia bilobed and subapical triangular spot extended to apex—*praecellens*, Kerr.; *frenchi*, Blackb. (var., without yellow spot on prothorax, ground-colour of elytra red).

NOTE.—A specimen of this beautiful and rare species was taken by me at Wangaratta, Victoria. Mr. W. Duboulay tells me that his father took it at Albury. A specimen sent me from Inverell, corresponding with two in the Macleay Museum (from Murrurundie, New South Wales, and Ipswich, Queensland, respectively), is very similar in structure and pattern, but has a darker elytra and is without any yellow on the border or underside of prothorax. At present I hesitate to call this other than a variety of *praecellens*.

SUBGENUS C. CASTIARINA, elytra striate-punctate, tarsal hooks simple.

- 1-15. Elytra carinate-costate.

NOTE.—Only species with strongly-pronounced costae are included here. Many other species have less pronounced costae, e.g., *costata*, Saund.; *luteipennis*, C. and G.; *nanula*, Kerr.

- 2-14. Elytra mostly red or yellow.  
 3-5. Form shortly ovate, suture, apex, or subapical spot black.  
 4. Pronotum very convex, dull-black, with deep medial line—*erythroptera*, Boisd.  
 5. Pronotum not very convex, nitid-purple or bronze, without medial line—*acuticollis*, n. sp.  
 6-8. Form long and narrow, elytra without dark markings.  
 7. Pronotum bronze with 4 deep foveate depressions—*impressicollis*, Macl.; *costalis*, Saund.  
 8. Pronotum purplish-green with 2 slighter lateral depressions—*attenuata*, n. sp.  
 9-11. Form widely oblong, pronotum bronze with deep irregular foveate depressions.  
 10. Elytra red, suture and apex black, apices trispinose—*nasuta*, Saund.  
 11. Elytra with carinae red, interstices black, apices finely bispinose—*spinolae*, C. and G.  
 12. Pronotum and elytra testaceous—*testacea*, Saund.  
 13-15. Pronotum yellow with black vitta or vittae.  
 14. Elytra orange with blue-black spots—*decipiens*, Westw.; *capucina*, Thoms.; *tricarinata*, Macl.  
 15. Elytra blue-black, pronotum trivittate—*octocostata*, n. sp.  
 16-423. Elytra without carinate costae.  
 17-24. Elytra yellow (without dark markings except basal margins).  
 18-21. Pronotum and underside metallic-green, more or less rounded on sides.  
 19. Elytral intervals flat, 13 mm. long—*planata*, n. sp.  
 20. Elytral intervals convex, 9½ mm. long—*moribunda*, Saund. (sometimes with suture and apex narrowly cyaneous—(?) *dispar*, Blackb.).



21. Alternate intervals subcostate, apex sanguineous, 7-8 mm. long—*tincticauda*, n. sp.
22. Prothorax straightly narrowed from base to apex, with sexual colouration—*immaculata*, Cart.
23. Prothorax dark-bronze green or coppery, abdomen yellow—*pallidipennis*, Blackb.; *addenda*, Kerr.
24. Whole surface above and below yellow—*flava*, Saund.; *flavescens*, Thoms.; *flavidula*, Kerr.
- 25-62. Elytra yellow or red with suture or apex, or both, dark.
- 26-60. Prothorax concolorous.
- 27-37. Pronotum, apex, and suture (except in *canaliculata*, Blackb.) of elytra black.
- 28-36. Abdomen cyaneous.
- 29-35. Form elongate-oblong, prothorax not widest at base.
30. Male with apex of abdomen produced and bilobed, prothorax very wide—*rufipennis*, Kirby; var. *crocipennis*, C. and G.
- 31-35. Male with apex of abdomen normal (excised or truncate).
32. 13 mm. long, elytra red, sides of prothorax evenly rounded—*parallela*, Saund.; *crocipennis*, Hope.
- 33-35. 6 mm. long, elytra testaceous, sides of prothorax widely rounded.
34. Apex of elytra wholly black—*nanula*, Kerr.
- \*35. Black suture not extending to apex—*canaliculata*, Blackb.
36. Form widely ovate, prothorax widest at base—*amplipennis*, Saund.
37. Abdomen flavous—*rubricauda*, Saund.
- 38-40. Pronotum bronze, underside blue or violaceous.
39. Suture of elytra only black (this enlarged and terminated before apex; elytra sometimes concolorous yellow)—*subpura*, Blackb.
40. Apex narrowly, and short subapical fascia black—*balteata*, Saund.; *postica*, Thoms.
- 41-45. Pronotum coppery or greenish-bronze.
42. Sutural colour widely dark blue-green—*elongata*, Saund.
- 43-45. Sutural colour narrowly green or bronze.
44. Abdomen green—*observans*, Kerr.
45. Abdomen golden-bronze or yellow—*bimaculata*, Saund.; *punctiventris*, Saund.; *guttata*, Blackb.; var. 1, *minor*, Blackb.; var. 2, *ignea*, Blackb.
- 46-59. Base and apex of elytra only dark, 16 mm. long or less.
- 47-49. Apex of elytra widely black, apices bidentate.
48. Pronotum and abdomen black—*nigriventris*, MacL.
49. Pronotum coppery, abdomen green—*viridiventris*, MacL.
- \*50. Apex of elytra widely purple, pronotum bronze-green—*phacorrhæa*, Kirby.
- 51-59. Apex of elytra narrowly dark.
- 52-56. Abdomen golden, or golden-green.
53. Apices of elytra with long external spine, posterior margin serrate—*hirundicauda*, n. sp.
54. Apices of elytra rounded, margins entire.
55. Elytral intervals subdepressed, apex green—*jucunda*, Saund.
56. Elytral intervals subcostate, apex black (sometimes with postmedial spot)—*luteipennis*, C. and G.
- 57-59. Abdomen yellow, posterior margins of elytra serrate.

58. Pronotum green, apices of elytra unidentate—*cinnamomea*, Macl.
59. ([?] var. of 58). Pronotum reddish-bronze, apices of elytra finely bidentate—*straminea*, Macl.
- 60-62. Elytra with large preapical spot extending, or not, to apex, pronotum blue, 18-22 mm. long.
61. Apices of elytra strongly bispinose, slightly recurved—*hackeri*, Cart.; *caudata*, Cart.
62. Apices of elytra rounded—*unimaculata*, Cart.
63. Pronotum red with black spot on disc, apex of elytra with large black spot—*maculicollis*, n. sp.
64. Pronotum black with wide red margins—*analis*, Saund.
- 65-90. Elytra yellow or red with dark spots.
- 66-83. Pronotum concolorous.
- 67-73. Pronotum greenish-bronze, elytra without dark suture or apex.
- 68-70. Elytra with 7 blue spots, underside blue.
69. One spot only on suture, normally pubescent beneath—*spilota*, C. and G.; *septemmaculata*, Mannerh.
70. Three spots on suture, densely pubescent beneath—*septemnotata*, n. nom.; *septemmaculata*, Blackb.
71. Elytra with 7 green spots, underside bright-green, pronotum transverse—*septemguttata*, Waterh.
72. Elytra with 8 blue spots, underside bronze—*octomaculata*, Saund.
73. Elytra with 5 black spots behind the middle—*quinquepunctata*, Waterh.
- 74-82. Apex of elytra black (or nearly so).
75. Pronotum black, elytra red with large medial spot—*maculipennis*, Saund.
- 76-82. Pronotum and underside green.
- \*77. 21 mm. long, elytra with 6 spots and apical margin black—*punctatostriata*, Saund.
78. 15 mm. long, elytra red with 2 large discal spots—*binotata*, Saund.
- \*79. 10 mm. long, elytra with 4 spots, scutellary region and apex dark—*scutellaris*, Kerr.
- 80-83. 7½-8 mm. long, elytra testaceous with dark spots.
81. Elytra with 3 black spots near apex—*triguttata*, Macl.
82. Elytra with suture, apex, sutural, and 4 lateral spots green—*sexguttata*, Macl.; spots variable or absent—var. *puella*, Saund.
83. Pronotum brassy-black, elytra with 4 lateral black spots—*quadriguttata*, Macl.
- 84-88. Pronotum red with dark discal markings.
- 85-87. Apex of elytra dark.
86. Pronotum with 2 green vittae, sometimes connected—*mustelamajor*, Thoms.; *gibbosa*, Macl.
87. Pronotum with large central transverse mark—*atronotata*, Waterh.; *guttaticollis*, Blackb.; *consularis*, Kerr.
88. Pronotum with central spade-shaped mark, apex of elytra reddish—*sexnotata*, n. sp.
89. Pronotum yellow, with oval black spot at centre of base—*trimaculata*, Saund.
90. Pronotum golden-green, margins yellow—*septemspilota*, Cart.
- 91-111. Elytra dark with yellow or red spots, pronotum and underside coppery or green.

- 92-95. Pronotum medially sulcate, apices of elytra close and subunidentate.
93. Each elytron with 3 round spots, basal and preapical connected with red marginal marks—*producta*, Saund.; *acutipennis*, Thoms.; (?) var. *sulcicollis*, Kerr.
94. Each elytron with lateral and discal spot yellow, preapical subfasciate spot yellow and red—*venusta*, Cart.; *suavis*, Cart.
95. Each elytron with subhumeral and 3 discal spots yellow, hindmost connected with red lateral spot—*gentilis*, Kerr.
- 96-106. Pronotum not medially sulcate.
- 97-99. Apices of elytra widely divergent, each strongly bispinose.
98. Basal third of elytra dark—*insignis*, Blackb.
99. Basal third of elytra yellow—*caudata*, Kerr.
- 100-102. Apices of elytra strongly acuminate (more so than in *producta*), subapical spots linear.
101. Subapical spots diverging towards apex (14 mm. long)—*acuminata*, Kerr.
102. Subapical spots converging towards apex (7-9 mm. long)—*obliqua*, Kerr.
103. Apices less acuminate than in *producta*, form more parallel—*delta*, Thoms.; (?) *deceptor*, Kerr.
- 104-111. Apices bispinose, interior spine small.
105. Each elytron with 3 discal spots, hindmost red at side—*delicatula*, Kerr.
106. Each elytron with humeral and 3 discal spots, hindmost at sides and margins red—*spectabilis*, Kerr.
- 107-111. Elytra without red markings.
108. Each elytron with 1 lateral and 2 discal spots yellow (10-12 mm. long)—*confinis*, Kerr.
- 109-111. Size small (7-8 mm. long), prothorax bulbous.
110. Each elytron with lateral and 2 discal spots and preapical fascia yellow—*pulchella*, n. sp.
111. Elytral spots smaller and without preapical fascia—*lilliputana*, Thoms.; *ocularis*, Kerr.; (*Neocuris*) *mastersi*, Macl.; (?) var. with 2 additional yellow spots at apex, (?) *dawsonensis*, Blackb.
- NOTE. — *Gentilis*, *pulchella*, and *lilliputana* might well be placed in a separate group, form elongate-ovate, apex not acuminate. There is an unaccountable mistake in Ann. Soc., Belg., 1900, p. 312, where M. Kerremans places *delta*, Thoms., as a synonym of *punctatostriata*, Saund. A glance at the description and figure of the latter shows a widely different insect, besides the difference in dimensions (*delta*, 12×4 mm.; *punctatostriata*, 21×8 mm.). From description I think *delta*, Thoms.=*deceptor*, Kerr.
- S. libens*, Kerr., is omitted from the tabulation as unknown to me, while the description as to structural characters is too brief for accurate diagnosis. It is apparently near *delicatula*, Kerr.
- 112-134. Elytra almost wholly dark with longitudinal or transverse yellow or red markings.
- 113-117. Size large, 18-21 mm. long.
114. Elytra brown-black, margins yellow, apices bispinose—*semicineta*, C. and G.; var. *variopicta*, Thoms.



115. Elytra purple with straight vitta and preapical transverse yellow, apices truncate—*jubata*, Blackb.
116. Elytra violet-purple, with a medial fascia golden—*magnifica*, Blackb.
- \*117. Elytra blue, pronotum golden-red, the first with humeral spot and antemedial fascia yellow—*chobauti*, Thery.
- 118-134. Size smaller, 15 mm. long or less.
- 119-130. Elytra mostly green (sometimes blue in *leai*).
- 120-124. Elytra olive-green, abdomen yellow.
- 121-123. Pronotum yellow with discal and basal spots black.
122. Elytra with subapical fascia and epipleural spot yellow—*pertyi*, C. and G.; var. *mima*, Saund.
123. Elytra with 2 fasciae, margins and humeral spot yellow—*flavosignata*, Macl.
124. Pronotum brassy-green—*luteocincta*, Saund.
- 125-130. Whole surface mostly (including abdomen) metallic-green.
126. Elytra with anterior sides and wide preapical band orange-red—*kerremansi*, Blackb.; *apicalis*, Kerr.
127. Elytra with narrow shoulder and wide preapical mark yellow, the latter with 2 green spots—*ocelligera*, C. and G.
128. Elytra with margins and variable number of elongate discal spots yellow—*virginea*, Erich.
129. Elytra with margins only in part yellow—*viridis*, C. and G. (possibly a local Victorian and Tasmanian variety of *cyanicollis*, Boisd.).
130. Elytra with epipleural spot and apical fascia yellow—*leai*, n. sp. (possibly a variety of 129).
- 131-133. Whole surface blue, or blue-black, with pale elytral markings.
132. Widely ovate, elytra with wide yellow medial band—*obsepta*, Kerr.
133. Elongate, elytra with humeral margins and preapical band red—*dulcis*, Blackb.; *colorata*, Kerr.
- NOTE.—Very variable, often approaching *thomsoni*, Saund., of which it is a possible Tasmanian variety.
134. Black, basal third of elytra and first three segments of abdomen yellow—*seminigra*, Cart.
- 135-166. Elytra with pairs of yellow or red spots, the middle four tending to become interrupted fasciae.
- 136-154. Head without yellow spot, elytral apices simply or finely bidentate.
- 137-148. Elytra with epipleural and 8 discal spots yellow.
- 138-145. Prothorax concolorous.
- 139-144. Abdomen dark, form cylindric.
- 140-142. Elytra dark-blue or purple, underside densely pilose.
141. Margins of elytra yellow, discal spots subequal—*xanthopilosa*, Hope; *parallela*, White; *splendida*, Gehin.
142. Latero-humeral spot yellow, middle spots variable in size—*elongatula*, Macl.
143. Surface golden-green, 4 anterior spots elongate—*croccicolor*, C. and G.
144. Elytra blue, 4 elongate spots ante and 4 subfasciate postmedian spots red, form acuminate—*lepida*, n. sp.
145. Abdomen yellow, form oblong attenuate behind—*pictipennis*, Saund.
- NOTE.—Four anterior yellow spots, sometimes coalescing, as in Saunders' figure.
- 146-148. Prothorax with yellow margins, 4 medial spots subfasciate.

147. Abdomen dark, elytral intervals nearly flat—*victoriensis*, Blackb.; *sensitiva*, Kerr.
148. Abdomen yellow, elytral alternate intervals subcostate—*costipennis*, Saund.
- 149-154. Elytra with marginal and 6 discal spots yellow, abdomen dark.
- 150-152. Prothorax concolorous.
151. Pronotum with medial sulcus—*mansueta*, Kerr.
152. Pronotum without medial sulcus, prothorax globose—*laena*, Thoms.; var. *electa*, Kerr.
153. Prothorax and elytra with red margins, elytra with humeral and 2 basal spots and 2 fasciae yellow—*rufolimbata*, n. sp.
154. Prothorax purple with bright-green margins, elytra with 4 marginal and 6 discal spots yellow—*versicolor*, C. and G.; *decemguttata*, Gory; *parva*, Saund.
- 155-166. Head with yellow spot, prothorax with yellow or red margins, underside mostly yellow.
- 156-165. Apices of elytra trispinose, posterior margins entire.
- 157-161. Elytra with epipleural and 8 discal spots yellow.
158. Form ovate and obese—*octospilota*, C. and G.; *femorata*, C. and G.; *adelaidae*, Hope; (var.) *rufipes*, Macf.
- 159-164. Form parallel.
160. Basal spots more or less round—*decemmaculata*, Kirby; *inaequalis*, Kerr.
161. Basal spots elongate linear—*picta*, C. and G.; *purpurea*, Hope; var. *laetabilis*, Kerr.
- 162-166. Elytra with epipleural and 6 discal spots yellow or red, underside yellow.
163. Apex and margins of elytra red, apices bluntly tridentate—*pallidiventris*, C. and G.; var. *cincta*, Blackb.; *rubrocincta*, Kerr.

NOTE.—The only distinctions I can find between *cincta* and *pallidiventris* are the larger size and the antemedial dark fascia continuous to the sides in the former.

164. Apex of elytra dark, apices acutely trispinose—*elderi*, Blackb.; (margins of elytra sometimes reddish) *rustica*, Kerr; *diversa*, Kerr.
165. Form oblong-attenuate, elytra with large basal and apical spots and postmedial fascia brick-red, femora red—*argillacea*, n. sp.
166. Apices of elytra bispinose, posterior margins serrated—*serratipennis*, n. sp.

NOTE.—*Octospilota*, *elongatula*, *crocicolor*, and others of this group have a tendency to longitudinal confluence of the elytral yellow markings. Of *octospilota* there is a common variety from Perth, Western Australia, in which the basal and medial spots coalesce, also the postmedial and subapical, leaving the margins, suture, and one fascia dark. *Rufipes*, Macf., is a well-marked Queensland variety, with red femora and distinctions in the pattern. The name should be kept.

I have a specimen of *elongatula*, from Sydney, in which all the spots on each elytron have thus coalesced, so that the dark markings consist only of a marginal and a sutural vitta, thus approaching (but distinguished from) *vittata*, Saund.

- 167-171. Elytra with longitudinal dark vittae (sutural and two discal).
- 168-170. Prothorax concolorous.
169. Elytra yellow, unidentate, vittae continuous to apex—*vittata*, Saund.
170. Elytra red, bispinose, discal vittae not continuous to apex—*sanguinolenta*, C. and G.
171. Prothorax with margins widely red—*amabilis*, C. and G.
- 172-194. Elytra with basal margins, postmedial fascia, and apex only dark.
173. Posterior margins serrated, pronotum and underside blue, form elongate—*longicollis*, Saund.
174. Near preceding, but postmedial fascia with bilobed extension in front (sometimes forming a sub-basal fascia), also suture blue—*desideria*, n. sp.
- 175-194. Posterior margins entire.
- 176-179. Size large, 20 mm. long or more.
177. Fascia and apical mark connected externally, latter with 2 yellow spots—*erubescens*, Blackb.
178. Space between fascia and apical mark dark-red—*alternata*, Lumh.
179. Apical half of elytra more or less red, markings variable (*vide supra*)—*maculiventris*, Macl.
- 180-193. Size medium (12-15 mm. long), elytral intervals flat or little raised.
- 181-187. Elytral apices strongly bispinose, truncate between spines.
- 182-185. Fascia narrow, elytra without red margins.
- 183-188. Form elongate.
184. Apical mark wide and square—*andersoni*, C. and G.; var. *verax*, Kerr.
185. Apical mark narrow—*mastersi*, Macl.; var. *deleta*, Kerr.
- 186-188. Fascia wider, elytra with red markings.
187. Space between fascia and apical mark red, underside blue-black—*brutella*, Thoms.; *terminalis*, Kerr.
188. Elytral apices narrowly bispinose, underside bronze-green (variety without fascia)—*uniformis*, Kerr.; (?) *graphisura*, Thoms.
- 189-194. Form ovate, elytral apices shortly bispinose.
- 190-192. Underside blue.
191. Antennae normal—*distincta*, Saund.; *sternalis*, Blackb.; *deliciosa*, Kerr.; var. *baliola*, Kerr.; var. *inermis*, Kerr.
- \*192. Male with flabellate antennae—(*Hypostigmodera*) *variegata*, Blackb.
193. Pronotum and underside golden-green, apex lunate—*nova*, Kerr.
194. Size small (7-5 mm. long), elytral intervals subconvex—*subcostata*, Kerr.
- 195-203. Elytra with basal margins, suture, one fascia and apex dark.
196. Prothorax red, with central vitta and 2 spots blue—*coccinata*, Hope; *elongatula*, White.
- 197-203. Prothorax concolorous and dark.
198. Size large, 20 mm. long or more—*sancta*, Cart.
- 199-203. Size smaller, 16 mm. long or less.
- 200-202. Apices of elytra bispinose.
201. Form oval, sutural band wide, fascial margins straight—*skusei*, Blackb.; *laudabilis*, Kerr.



202. Form navicular, sutural band narrow, fascial margins irregular—*campestris*, Blackb.
203. Apices of elytra trispinose—*pulchripes*, Blackb.  
NOTE.—*Skusei* and *campestris* have sometimes a dark spot on shoulder.
- 204-228. Elytra with basal margin, humeral spot, one fascia, and apex (or subapical mark) dark.
- 205-210. Form cylindric, underside coppery-bronze, elytra with preapical mark dark.
206. Prothorax golden, centre of disc violet—*insignicollis*, Blackb.
- 207-225. Prothorax concolorous.
- 208-210. Elytra with spot on suture between fascia and scutellum.
209. Size larger (15 mm. long), elytral intervals strongly punctate—*convexa*, Cart.
210. Size small (9 mm. long), elytral intervals finely punctate—*filiformis*, Blackb.
211. Form obovate and flat, elytra with suture dark near scutellum, apical margins red—*tyrrhena*, Blackb.
- 212-228. Apex of elytra dark.
- 213-215. Form narrowly navicular.
214. Elytral apices widely dark, basal sutures not dark, without red margins—*gracilior*, Cart.; *gracilis*, Cart.
215. Apical mark square, basal suture dark, subapical margins red—*disjecta*, Kerr.
216. Form shortly ovate (as in *mustelamajor*, Thoms.), subapical area red—*festiva*, n. sp.
- 217-225. Form elongate-ovate.
- 218-222. Elytra with dark spot on suture, between fascia and scutellum.
219. Abdomen blue—*propinqua*, n. sp.
- 220-222. Abdomen yellow or red.
221. Elytra with red margins, form subcylindric—*haswelli*, n. sp.
222. Elytra without red margins, form ovate—*fulviventris*, Macl.; *guttigera*, Blackb.
- 223-225. Elytra with suture dark throughout.
- \*224. Abdomen dark-green, elytral markings green and violet—*macleani*, Blackb.
225. Abdomen yellow, elytral markings bronze-green—*auricollis*, C. and G.; *ochreiventris*, Saund.; *strigata*, Macl.
- 226-228. Prothorax with yellow margins, elytra with dark humeral spot.
227. 14 mm. long, disc of pronotum and elytral suture black—*audax*, Saund.
228. 9 mm. long, disc of pronotum bright-bronze, suture not dark—*titania*, n. sp.
- 229-266. Elytra with basal margin, apex (or subapical mark), postmedial fascia, and humeral vitta dark.
- 230-259. Prothorax concolorous.
- 231-252. Underside dark.
- 232-236. Size large, 15 mm. long or more.
- 233-235. Elytra yellow with dark-green or blue markings, apex dark.
234. Prothorax widest at middle, apices of elytra simply rounded—*undulata*, Don.; *laportei*, Boh.



235. Prothorax widest at base, apices of elytra hispidose—*neglecta*, n. sp.
236. Elytra red with short subapical fascia—*indistincta*, Saund.
- 237-252. Size smaller, 12 mm. long or less.
238. Alternate intervals of elytra subcostate—*costata*, Saund.
- 239-252. All intervals uniform.
- 240-247. Apex of elytra widely dark, humeral vitta arcuate.
- 241-243. Elytral markings blue.
242. Pronotum and underside violet or coppery, form elongate and parallel—*wilsoni*, Saund.; var. *sigma*, Kerr.
243. Pronotum and underside peacock-blue, sides of elytra sinuate—*flavopicta*, Boisd.; *bicolor*, C. and G.; *colorata*, Hope.
244. Pronotum and underside metallic-green, elytral markings purple—*flavopurpurea*, Cart.
- 245-247. Pronotum coppery.
246. Underside coppery—*confusa*, Waterh.
- \*247. Underside blue black—*agrestis*, Kerr.
- 248-253. Apex of elytra very narrowly dark or pale with preapical marking.
- 249-251. Form convex and robust, preapical fascia anchor-shaped.
250. Pronotum and underside bronze-black—*anchoralis*, C. and G.; *arborifera*, Blackb.
251. Pronotum and underside coppery—*simulata*, C. and G.; *helenae*, Hope; var. *phryne*, Thoms.; var. *lais*, Thoms.; var. *triramosa*, Thoms.; *distinguenda*, Thoms.; *fraterna*, Kerr.
252. Form narrower and flatter, extreme apex narrowly green (rarely connected with preapical marking)—*iospilota*, C. and G.
- 253-259. Abdomen (at least apical segments) yellow.
- 254-258. Size large (15 mm. long or more), elytra red, preapical mark straight.
- 255-257. Apices of elytra finely but distinctly hispidose.
256. Pronotum irregularly and coarsely punctate—*speciosa*, Kerr.
- NOTE.—In general with postmedian fascia; this, in type specimen, only represented by a spot on each side, not mentioned in the description.
257. Pronotum regularly and finely punctate—*ignota*, Saund.
258. Abdomen of male yellow, of female green, apices of elytra with minute excision not hispidose—*jekelli*, Saund.
259. Size smaller, elytra yellow, preapical mark cordate or sagittate—*abdominalis*, Saund.; (?) *unica*, Kerr.
- NOTE.—*Unica*, Kerr., described as from Sydney. With a long experience amongst collectors in this district, the only species I know near it is *abdominalis*, Saund., and the author's description may well apply to a discoloured specimen of *abdominalis* in which the green markings appear black.
- 260-265. Prothorax with yellow or red margins.
261. Underside golden-green.
- 262-264. Preapical marking cordate or anchor-shaped.
263. 14-15 mm. long, sides of prothorax and ground of elytra orange-red—*cupida*, Kerr.
264. 10-12 mm. long, sides of prothorax (narrowly) and elytra yellow—*tricolor*, Kirby; *curta*, Saund.; *opima*, Kerr.

265. Wide dark apical mark surrounding 2 yellow spots—*humeralis*, Kerr.; *tillyardi*, Cart.  
NOTE.—A Brisbane variety of this is without humeral vitta.
266. Underside yellow, head with yellow spot, apex and margins of elytra red—*flaviceps*, Cart.
- 267-281. Elytra with circum-scutellary patch, postmedial fascia and apex dark.
- 268-275. Prothorax concolorous.
- 269-271. Circum-scutellary patch large (extending over greater part of anterior third).
270. Size large (18 mm. long), pronotum and underside bronzy-black—*bremei*, Hope.
271. Size medium (13-16 mm. long), pronotum and underside golden-coppery—*ornata*, Blackb.
- 272-275. Circum-scutellary patch small.
- \*273. Elytral markings blue, intervals smooth, 13 mm. long—*cordifer*, Kerr.
274. Elytral markings green, intervals punctate, 9 mm. long—*doddi*, Cart.
275. Size small (6-7 mm. long), scutellary spot connected at base with shoulder spots—*hilaris*, Hope.
- 276-281. Prothorax with yellow or red margins.
277. Apices strongly bispinose, elytral intervals closely punctate—*biguttata*, MacL.; *terrae-reginae*, Blackb.; *triangulosa*, Kerr.
278. Apices lunate subbispinose, intervals smooth—*gibbicollis*, Saund.; *fascigera*, Kerr.
- 279-281. Apices of elytra simply rounded.
280. Scutellary patch not extending to sides at base, markings dark-green—*grata*, Saund.
281. Scutellary patch extending to sides at base, markings bright-green—*subgrata*, Blackb.; *campestris*, Kerr.  
NOTE.—In the last two species—doubtfully distinct—the lateral half of each elytron is much more closely punctate than the sutural half.
- 282-306. Elytra dark with two yellow or red fasciae.
- 283-291. Medial pale fascia arcuate and interrupted at suture.
- 284-290. Size large (15-20 mm. long), posterior margins denticulate.
- 285-301. Prothorax concolorous.
- 286-289. Apices of elytra rounded, upper-surface mostly blue-black or blue.
287. Pronotum dark-bronze, underside blue (with or without yellow humeral spot)—*hoffmannseggii*, Hope.
288. Pronotum dark-violet, underside dark-green—*fairmairei*, Kerr.
289. Pronotum and underside coppery or golden—*pallas*, Blackb.
290. Apices feebly bidentate, whole surface (except fasciae) bright-blue (with or without yellow humeral spot, the latter form with prothorax much widened and elytra obovate)—*klugi*, C. and G.
291. Size smaller (10-14 mm. long), posterior margins entire, upper-surface bright-green, underside coppery-green with latero-subhumeral yellow spot—*dimidiata*, Cart.

NOTE.—This species is specifically near *cyanicollis*, Boisd.; *viridis*, C. and G.; and *leai*, Cart., but the exigencies of tabulation place it here.

- 292-306. Elytra black, blue-black, or violet-black, medial fascia nearly straight and continuous.
293. Apical margins of elytra red, pronotum black—*bella*, Saund.; *cruentata*, C. and G.
- 294-301. Pronotum bronze.
- 295-300. Elytra violaceous, intervals little raised.
296. Apices of elytra trispinose, underside blue—*bicincta*, Boisd.; *bicingulata*, C. and G.; *dejeani*, Gory; *trispinosa*, Kerr.
- 297-301. Apices bispinose.
298. Apical spines of equal length, underside bronzy, elytral intervals sublaevigate—*vicina*, Saund.; *bicincta*, C. and G.
- 299-301. External spine longer.
300. Underside purple, elytral intervals strongly punctate—*subbifasciata*, Saund.
301. Elytra blue-black, alternate intervals subcostate, underside green-bronze—*coeruleipes*, Saund.; variety with oval basal spots yellow—*montana*, n. var.
- 302-306. Prothorax with red or yellow margins.
- 303-305. Margins of prothorax widely and of abdomen red, the former subangulately widened.
304. Apices of elytra shortly bispinose—*erythromelas*, Boisd.  
NOTE.—Described as from Tasmania, my specimens come from Perth, Western Australia.
305. Apices of elytra strongly bispinose, external spine very long—*cyanipes*, Saund.; *armata*, Thoms.; *longula*, Blackb.  
NOTE.—The colour varies from blue-black to bright-blue. The widening of the prothorax is also variable, generally widest about the middle, sometimes sulcate within the margin, but in all cases examined the widest part is more advanced than in *erythromelas*.
306. Margins of prothorax and whole underside yellow—*marginicollis*, Saund.
- 307-420. Elytra yellow or red with basal margin, 2 fasciae and apex or preapical mark dark.
- 308-353. Apical mark covering apex of elytra.
- 309-350. Pronotum concolorous.
- 310-314. Size large, 15-20 mm. long.
- 311-315. All fasciae extending to sides.
312. Pronotum and underside coppery or green, apices shortly bispinose—*cupricollis*, Saund.  
Pronotum and underside more obscure—var. *alterzona*, Thoms.; *deyrollei*, Thoms.  
Pronotum black (probably discoloured variety of preceding)—*julia*, Thoms.
313. Pronotum blue, underside brilliant-violet, apex unarmed (?)—*cognata*, Kerr.  
NOTE.—A species found near Sydney seems to correspond with the author's description, but has finely bispinose apices.
314. Margins of elytra red, male with yellow abdomen—*cruenta*, C. and G.
315. Size smaller, 10 mm. long—*vigilans*, Kerr.
- 316-375. Anterior fascia not extending to sides.  
NOTE.—While in general this character holds true, exceptional cases occur.

- 317-345. Abdomen dark.  
 318-329. Size large, 14-21 mm. long.  
 319. Ground of elytra yellow, margins red, neither fascia reaching sides—*blackburni*, n. sp.  
 320-329. Ground of elytra red.  
 321. Form wide, pronotum and underside blue—*robusta*, Saund.  
     NOTE.—Fasciae variable, sometimes only spots, or (rarely) wanting, apex always narrowly cyaneous.  
 322-330. Form narrower.  
 323-325. Pronotum blue-black, apices of elytra widely lunate and strongly bispinose.  
 324. Elytra sinuate, slightly obovate, intervals strongly convex and finely punctate—*thomsoni*, Saund.  
 325. Elytra much attenuated at apex, intervals flat and strongly punctate—*pisciformis*, n. sp.  
     NOTE.—*pisciformis* has the prothorax strongly bulging near base, with much denser and coarser punctures than *thomsoni*.  
 326-329. Pronotum bronze-green, underside green.  
 327. Form elongate and depressed, apices finely bidentate—*helmsi*, Cart.  
 328-330. Form cylindric.  
 329. Underside green, apices acuminate with oblique excision—*trifasciata*, C. and G.; *apicalis*, C. and G.; *tacita*, Kerr.  
 330. Pronotum and underside bright-blue, apices bispinose—*kirbyi*, Guér.; *vivida*, Hope.  
 331-336. Size, 12-14 mm long.  
 332-338. Ground of elytra yellow.  
 \*333. Pronotum bronze-green, elytral markings blue—*affabilis*, Kerr.; *simplex*, Kerr.  
 334-336. Pronotum bronze, elytral markings black (or nearly so), apices bispinose.  
 335. Postbasal yellow band wide, apical spines long—*rectifasciata*, Saund.  
 336. Postbasal yellow band narrow, apical apices subobsolete—*colligens*, Kerr.  
 337-345. Size small, 10 mm. long or less.  
 338. Pronotum black, form narrowly cylindric, apices acuminate with oblique excision—*tripartita*, Kerr.  
     NOTE.—This species very near and possibly a small variety of *atricollis*, Saund.  
 339. Pronotum bright-blue, elytra red with bright-blue fasciae—*vegeta*, Hope; *coeruleiventris*, Saund.; *haroldi*, Saund.; *viridiventris*, Saund.; anterior blue band extending to base, var. *cruentata*, Kirby; *neologa*, Thoms.; *coerulea*, Kerr.; *coelestis*, Kerr.; *stillata*, Blackb.  
     NOTE.—Kirby's name has the priority, but this colour variation is less common than that of Hope's type.  
 340-345. Second elytral interval wider than rest and subcostiform.  
 341-344. Pronotum bronze, sometimes greenish, scarcely sulcate.  
 342. Light bands of elytra red, apices widely lunate, external spine long—*plagiata*, Gory; *crenata*, C. and G.; *sexplagiata*, Gory; *bicrucata*, Hope; *hopei*, Boh.; *similata*, Boh.



343. Light bands of elytra with external parts only red, apices more finely lunate and shortly hispidose—*crenata*, Don.; *kreffti*, MacI.; *variata*, Kerr.
344. Light bands of elytra testaceous throughout—*generosa*, Kerr.
345. Pronotum black, very convex, with deep medial sulcus—*carinata*, MacI.
- 346-350. Abdomen yellow or red.
- 347-349. Posterior margins of elytra entire.
348. Pronotum bronze-green, anterior fascia antemedial—*rubriventris*, Blackb.; *maculifera*, Kerr.
349. Pronotum coppery, anterior fascia medial—*secularis*, Thoms.
- \*350. Posterior margins of elytra denticulate, pronotum coppery or purple—*cara*, Blackb.; *placens*, Kerr.
- 351-353. Margins of prothorax yellow or red.
352. Disc of pronotum coppery, its margins and whole underside yellow—*bifasciata*, Saund.
353. Disc of pronotum blue, its margins and whole underside red—*castelnaudi*, Saund.; *thomsoniana*, Mast.; *laportei*, Kerr.
- 354-375. Subapical mark not extending to apex of elytra.
- 355-372. Prothorax concolorous.
- 356-360. 13 mm. long or more.
357. Form wide, sinuate and depressed, elytra red with blue-black fasciae—*felix*, Kerr.
- 358-360. Form cylindric, robust.
359. Margins of elytra red, markings nearly black—*burchelli*, C. and G.; *perplexa*, Hope; *lauguinosa*, Hope; *hostilis*, Blackb.
360. Margins of elytra not red, markings more brilliant—*sagittaria*, C. and G.; *gravis*, Har.; *obscuripennis*, Saund.
- 361-375. 12 mm. long or less.
- 362-367. Elytra red with dark fasciae.
363. Pronotum and underside bright-green, form cylindric—*amphichroa*, Boisd.; *seraspilota*, C. and G.; *sieboldi*, C. and G.; var. *cylindracea*, Saund.; var. *bucolica*, Kerr.
364. Pronotum bronze, underside blue, form obovate—*carminea*, Saund.
- 365-367. Pronotum and underside golden.
- \*366. Fasciae black, sides of elytra sinuate—*pulchra*, Saund.; *rostrata*, Thoms.
367. Fasciae light-green, short (often mere spots), sides parallel—*aureola*, Cart.
- 368-372. Elytra testaceous with dark fasciae, form depressed.
- 369-371. Apices of elytra hispidose.
370. Elytra without red margins, intervals uniform and flat—*hopei*, Saund.; *burchelli*, Hope; *placida*, Thoms.
371. Elytra with red margins, alternate intervals subcostate and wider—*punctatosulcata*, Saund.; *litigiosa*, Kerr.
372. Apices of elytra simply rounded—*punctatissima*, Saund.
- 373-375. Margins of prothorax and underside yellow or red.
374. Elytra and prothoracic margins red (12×5 mm.)—*distinguenda*, Saund.

375. Elytra and prothoracic margins yellow (11×3.5 mm.)—*signata*, Kerr.

NOTE.—I have identified *signata* as a species taken lately by Mr. J. Dixon, of Melbourne, in the north-west district of Victoria. The description is merely confined to colour and size. If I am correct, the species often has the anterior fascia broken up into spots, while the yellow colour so much predominates over the green that it can scarcely be said to be “*vert obscur, avec de.*” The same species has been determined by Blackburn for a specimen in the South Australian Museum as *distinguenda*, Saund., of which it may be a variety.

- 376-398. Anterior fascia often (or always) broken up into 3 spots.  
 377-389. Apical mark covering apex of elytra.  
 378-388. Prothorax concolorous, abdomen dark.  
 379. Apices clearly bispinose, spines equal, elytra red with green fasciae—*delectabilis*, Hope.  
 380-387. Apices acuminate, with narrow oblique excision.  
 381. Base of prothorax with pronounced medial lobe—*obscura*, Saund.; var. *transversipicta*, Thoms.  
 382-387. Base of prothorax nearly straight, form cylindric.  
 383. Elytra orange-red, pronotum bronze—*recta*, Saund.  
 384-388. Elytra testaceous.  
 385-387. Elytral intervals flat.  
 386. Pronotum and fasciae blue-black, anterior spots not in a horizontal line (11 mm. long)—*atricollis*, Saund.  
 387. Pronotum and fasciae bright-blue, anterior spots in a horizontal line (8-9 mm. long)—*deserti*, Blackb.  
 388. Elytral intervals convex, apices more widely excised—*suavis*, Kerr.  
 389. Abdomen yellow, size large (16-19 mm. long)—*alexandri*, n. sp.  
 390-398. Subapical mark not at the apex of elytra.  
 391-393. Margins of elytra sanguineous.  
 392. Intervals flat, suture partly dark, markings blue—*rubrocincta*, Gehin.  
 393. Alternate intervals subcostate, suture dark throughout, markings bright-green—*alternecosta*, Thoms.; *alacris*, Kerr.; *quadrinotata*, Blackb.  
 394-398. Margins of elytra not sanguineous.  
 395-397. Pronotum bronze.  
 396. Posterior half of suture dark—*piliventris*, Saund.  
 \*397. Whole suture dark—*crux*, Saund.  
 NOTE.—I have not been able to identify this species, which must be very close to several of its neighbours, and possibly a variety of *piliventris*.  
 398. Pronotum green or blue, whole suture dark—*scalaris*, Boisd.; *cyanicollis*, Boisd.; *subtrifasciata*, C. and G.; *media*, Hope; *crucigera*, C. and G.; *prudens*, Kerr.  
 399-420. Anterior fascia bifurcate laterally, leaving lateral spot yellow or red.  
 400-409. Yellow or red postbasal marks continuous with lateral spot.  
 401. Form elongate, flat, elytra red, apices simple (19-23 mm. long)—*insularis*, Blackb.  
 402. Form subcylindric, elytra yellow, apices bispinose (15-16 mm. long)—*browni*, n. sp.

- 403-417. Size smaller, 12 mm. long or less.  
 404-408. Pronotum bronze.  
 405-407. Underside bronze.  
 406. Apices of elytra bispinose, elytral markings coppery—*cupricauda*, Saund.  
 407. Apices of elytra feebly excised, elytral markings black—*inconspicua*, Saund.  
 \*408. Underside blue, apices of elytra distinctly spinose—*acuticeps*, Saund.  
 409. Pronotum and underside metallic-green or bluish—*flavovaria*, Saund.; *flavopicta*, C. and G.; *timida*, Kerr.  
 410-420. Yellow postbasal marks isolated and round.  
 411-418. Prothorax concolorous.  
 412-415. Posterior margins of elytra serrated.  
 413. Pronotum, underside, and elytral markings coppery or violet-bronze—*violacea*, Macl.; *cupreoflava*, Saund.; *equina*, Blackb.  
 414. Pronotum blue-black, widest at base, feebly convex, fasciae green-black—*australasiae*, C. and G.; *simulata*, Hope; *melbournensis*, Thoms.  
 415. Pronotum green-bronze, widest at middle, very convex, fasciae blue-black—*assimilis*, Hope.  
 416-418. Posterior margins of elytra entire.  
 417. Pronotum nitid-bronze, smaller than preceding—*puerilis*, Kerr; var. *atrocoerulea*, Kerr.  
 418. Size small (6 mm. long), pronotum brilliant-bronze—*minuta*, Blackb.  
 419. Pronotum fiery-coppery at sides, its disc and elytral fasciae bright-green—*cydista*, Rainb.  
 420. Pronotum with yellow margins, posterior margins of elytra serrated—*eremita*, Blackb.  
 421-423. Elytra testaceous, with 3 fasciae, and the apex dark.  
 422. Form narrow and acuminate, pronotum coppery, fasciae and underside blue—*quadrifasciata*, Saund.  
 423. Form shortly obovate, pronotum and underside green, fasciae bronze—*rotundata*, Saund.; (?) var. *aeneicornis*, Saund.

NOTE.—I have a specimen of *rotundata* from Sydney in which the fasciae are represented by mere dots; *aeneicornis* may well be another variety. I have never seen it identified.

*S. crux*, Saund., and *acuticeps*, Saund., are probably varieties of common species, but I have not sufficient evidence to convict them of synonymy; *marginicervex*, Thoms.; and *libens*, Kerr., have been omitted from the tabulation as impossible to identify from description only.

#### STIGMODERA POROSA, n. sp.

Pl. ix., fig. 5.

♀. Elongate-ovate. Head, antennae, prothorax, scutellum, and upper-surface of legs nitid greenish-bronze, underside and tarsi black-bronze, elytra brown-red, the numerous large foveae thereon black or nearly so, the base narrowly



dark-bronze. Apex of head and whole underside strongly villose, the hair on head yellowish, on underside white.

*Head* densely punctate and slightly rugose, scarcely depressed between eyes, with small smooth longitudinal ridge in the middle of the forehead, sometimes finely channelled at the middle of base. *Prothorax* moderately convex, width one and one-half times the length, straight at apex, bisinuate at base, with wide medial lobe, sides nearly straight on basal half, more strongly converging towards apex, posterior angles acute; disc densely and coarsely rugose-punctate, with smooth, nitid, vermiculate intervals, sometimes with vaguely-defined smooth medial line behind, and an even less-defined medial depression on anterior area. *Scutellum* widely oval, with central part depressed and finely punctate. *Elytra* slightly widened at shoulders and again behind the middle, then moderately converging to a wider apex; each elytron widely subtruncate, or with wide concave outline (as in *grandis*, Don., as depicted by Saunders), the whole surface covered with large foveae arranged more or less in longitudinal series, the raised nitid vermiculations themselves sparsely punctate. *Sterna* and *episterna* coarsely rugose, abdomen with round distinctly-separated punctures, sparse on centre, dense at sides, in both cases becoming much finer towards apex, basal margins of segments quite smooth. *Dim.*—28-30 × 12-13 mm.

*Hab.*—Queensland: Caloundra (H. Hacker).

Three specimens in the Queensland Museum taken by Mr. Hacker are all female. The species is superficially like *sanguinosa*, Hope, from Western Australia, but differs markedly in the following characters, *inter alia*:—(1) Size larger, especially more robust, and less navicular. (2) Coloration less vivid, the underside and elytral foveae metallic-black in *porosa*, golden copper or green in *sanguinosa*. (3) Apex of elytra entirely different. It belongs to *Sect. b.*, *Stigmodera*, as classified by Kerremans (*Genera Insectorum*, p. 204).

NOTE.—After six months the colour of the elytra becomes much darker, the red only noticeable at the apex, the prevalent tone being blue-black, with here and there gleams of the brown-red.

#### STIGMODERA FRANCA, n. sp.

Pl. ix., fig. 11.

Oblong-ovate. Head, underside, and legs blue-black, pronotum bronze-black with violet reflections, antennae and tarsi black, elytra chestnut-brown with a narrow basal margin, the suture and apex widely blue-black, scutellum blue.



Underside, legs, and tarsi rather thickly clad with long whitish hair.

*Head* canaliculate but not excavate in front; densely and finely rugose punctate. *Pronotum*  $12 \times 8$  mm., moderately convex, apex nearly straight, base moderately bisinuate, widest at base, sides rather strongly sinuate in front of the acutely-produced posterior angles, thence sharply narrowed anteriorly, base exactly twice as wide as apex; distinctly channelled for the greater part, the channel terminating behind in a large smooth depression; disc in general evenly and closely punctate, with some irregular, smooth areas towards the obtuse anterior angles. *Scutellum* cordate, laevigate with a carinate margin. *Elytra* considerably wider than prothorax at base, and nearly two and a half times as long, sides sinuately widened behind middle, each apex rather widely subtruncate (a little rounded), the sutural points feebly produced and divergent, posterior margins entire; striate; each elytron with four wide, scarcely-raised costae, the wider intervals between these irregularly rugose-punctate, the costae and raised parts of intervals with smaller punctures. *Sternum* coarsely punctate, the prosternum transversely ridged; abdomen more finely punctate, the punctures smaller towards apex. *Tarsal hooks* with well-developed dentate enlargement at their origin. *Dim.*,  $40 \times 16$  mm.

*Hab.*—North Queensland: Upper Mulgrave River (Coll. of C. French).

A single female specimen has an elytral pattern somewhat as in *latithorax*, Thoms., or *thoracica*, Saund., with a darker ground colour than either of these. The sculpture of the elytra is somewhat like that of *gigas*, Gehin., or *latithorax*, Thoms., but the smaller more attenuate, concolorous prothorax easily distinguishes it from these. The surname and Christian name of the distinguished naturalist in whose collection the type is contained being both preoccupied in *Stigmodera* I have used a Latinized form of his name to denote this fine species.

#### STIGMODERA GIGAS, n. sp.

Pl. ix., fig. 6.

Oblong-oval, robust. Head black, with two red spots between the eyes, pronotum mottled red and black, the smooth raised vermiculations red, with irregular black spaces; elytra brownish-black with narrow orange-red border: underside, legs, and antennae nitid-black, except for a small red spot on the flanks of the prosternum.

*Head* scarcely concave, lightly canaliculate, sparsely punctate. *Prothorax*  $10 \times 16$  mm., very wide and convex

(sub-bulbous), straight in front, bisinuate behind, with middle lobe very wide, the base of elytra angulately fitting into excisions on each side of the middle lobe; widest behind middle, sides widely rounded and strongly crenated, anterior angles deflexed and obtuse, posterior subrectangular; disc irregularly sparsely and coarsely punctate, the punctures almost entirely limited to the smaller black areas, medial line smooth, neither raised nor depressed. *Scutellum* subcordate, depressed in front, laevigate, sometimes with red spot. *Elytra* wider than prothorax at base and three and a half times as long, shoulders obtusely angulate, sides sinuately widening behind the middle, thence narrowing to the truncate apex; deeply striate, intervals widely convex, very sparsely punctate, humeral region rugose. *Prosternum* and flanks of metasternum vermiculose-rugose; abdomen with large elongate scattered pits, bearing smaller punctures within, apical segment vermiculose-rugose. *Dim.*, 45-53 × 20-23 mm.

*Hab.*—Western Australia: Southern Cross, also Tammin. Type in Macleay Museum.

A species allied to *grandis*, Don., but distinguished as follows:—

<i>S. grandis.</i>	<i>S. gigas.</i>
<i>Head</i> without spots.	With two orange spots.
<i>Prothorax</i> rather flat, widest at base, rugose-punctate, margins widely orange.	Very convex, widest behind middle, sparsely and coarsely punctate, red colour prevalent over whole surface.
<i>Elytra</i> not wider than prothorax at base, coarsely and densely punctate, apex with strong external tooth, orange margin extending over three intervals on basal half.	Sparsely punctate (except at shoulders), apex with subobsolete exterior tooth, orange margin extending over two intervals on basal half.
<i>Underside</i> aeneous - black, densely pubescent.	Black, slightly pubescent.

Four specimens examined, two of which (the sexes) are in the collection of Mr. W. Duboulay, taken by his father, Mr. F. H. Duboulay, at Tammin. Mr. Duboulay has also sent one to Mr. C. French.

#### STIGMODERA BARBIVENTRIS, n. sp.

Pl. ix., fig. 7.

♂. Elongate-navicular. Head, prothorax, underside, legs, and antennae dark nitid green-bronze, prothorax narrowly bordered orange: elytra tawny-yellow on disc with wide

darker band towards sides and apex, extreme lateral border orange-yellow as on prothoracic margin, red at apex. (The lighter colour on disc confined to the costate intervals, the wide sulci being dark-brown.) Head and the whole underside densely covered with long white hair.

*Head* coarsely rugose, forehead nearly flat, scarcely excised, and faintly channelled, strongly produced in front. *Prothorax* rather flat, bisinuate at apex and base, the latter nearly twice as wide as apex, anterior angles produced and obtuse, sides crenated, gently rounded and diverging to the base, posterior angles rounded; surface coarsely vermiculate-rugose, the raised rugosities smooth and nitid, two deep basal foveate punctures. *Scutellum* subcordate, smooth. *Elytra* widening at the shoulders, then gradually and regularly tapering to the apex, each elytron strongly bispinose at apex, the exterior spine unusually long. Each elytron with ten costiform intervals, including the sutural but excluding the subcostate margins, the sutural costae terminating in the apical spine, the second costa short and joining the fourth near base, the fourth similarly connected with the sixth; costae 7-10 commencing behind the humeral swelling, the ninth subobsolete; the costae smooth except for a few large punctures; the sulci between costae wide and rugose-punctate, with evident rows of large punctures forming crenulations to the sides of costae. The whole *underside*, where not obscured by dense hair, rugose, the raised vermiculation nitid; last segment of abdomen with arcuate excision. *Femora* coarsely punctate with long hairs, tarsal claws widened at base into a small lobe. *Dim.*, 42 × 16 mm.

*Hab.*—Victoria: Beechworth. Type ♂ in the National Museum, Melbourne; ♀ in Mr. Lea's collection, labelled New South Wales (probably Inverell).

I have only seen these two specimens of this fine species. The female presents a slight variation in the apical structure, the wide space between the long external and the short sutural spines containing an angulation, obtusely dentate, making each apex subtrispinose. There is no sign of this in the male specimen. The two are otherwise alike, except for the usual sexual distinction in the last abdominal segment, in which the female has a stronger tuft of hair than the male. The species is very distinct from all the other described larger species.

STIGMODERA GLORIOSA, n. sp.

Pl. ix., fig. 8.

♀. Oblong-ovate, robust. Antennae brilliant bronze; head and pronotum brilliant golden-green, the former with an elongate orange spot on the face, the latter with large



rounded orange markings near the hind angles and a small one near the middle basal fovea; scutellum very nitid and brassy; elytra orange-red, with basal margins brilliant green, two wide fasciae and the apex widely obscure green, the first of these antemedian, sinuate on its anterior margin, extending from shoulder to shoulder, concave to the front and not reaching the sides; the second postmedian, nearly straight, extending to the sides and there produced to meet the wide basal dark-green marking; prosternum, legs, margins of meso- and meta-sternum, and margins of abdominal segments brassy-green, episterna and rest of underside yellow.

*Head* canaliculate, but not excavate between eyes; irregularly punctate, with a few smooth raised spaces, closely punctate towards sides. *Prothorax* very convex and wide, apex bisinuate, anterior angles produced and rounded, base twice as wide as apex, strongly bisinuate, the middle lobe widely subangulate, posterior angles produced and acute; widest near base, sides regularly rounded; disc irregularly punctate, the punctures finer near middle, coarser and closer (subrugose) at sides, a smooth medial line near base, a transverse foveate depression at middle of base and two short longitudinal sulci intersecting the base towards the hind angles. *Scutellum* oval, convex, and smooth. *Elytra* slightly wider than and more than three times as long as the prothorax, widened behind shoulders and widest behind the middle: sides not serrated, apex widely rounded, not spinose. Each elytron with ten striae besides a short scutellary stria, intervals convex and sparsely punctate, the fourth and eighth with a row of larger punctures. *Sternum* coarsely punctate and sparsely clad with long white hairs, abdomen with basal segments coarsely, apical very finely punctate. *Femora* finely and sparsely punctate; tarsal claws strongly toothed at their origin. *Dim.*,  $42 \times 19$  mm.

*Hab.*—Western Australia: Murchison district. Type in National Museum, Melbourne.

This magnificent insect from French's collection is unique in the Melbourne Museum, but was evidently undescribed. Belonging to the *sexmaculata*, Saund., *fortnumi*, Hope, and *regia*, Blackb., section, in form and pattern, but differing from all these in the strongly convex prothorax, and like *conspicillata*, White, in the basal red spot on thorax. The elytral pattern is most like that of *regia*, Blackb., except that the whole apical region is dark coloured. The elytra are a little displaced in the specimen, but if closed the apex would form one continuous wide curve, without tooth or excavation. Mr. H. W. Brown has also a specimen, taken by himself.



## STIGMODERA IMPERIALIS, n. sp.

Pl. ix., fig. 9.

♀. Oblong-oval. Head basal part blue, face red margined blue and green, clypeus green-bronze, labrum reddish with long upright tufts of hair, antennae green; pronotum, elytra, and greater part of underside red, the first slightly violaceous, with narrow medial vitta and base blue, the second with basal border, straight postmedian fascia (not reaching sides or suture), and very narrow apical border black; the last with margins of abdominal segments, margins and middle of prosternum and metasternum metallic-blue, episterna red with a violet tinge; scutellum purple, femora red with base and apex blue, tibiae blue, tarsi blue above red beneath.

*Head* concave and finely canaliculate at base; with coarse scattered punctures on middle, more dense at sides. *Prothorax* 8 × 15 mm., rather depressed, widest at base, sides rather straight behind, then arcuately and subsinuately narrowed to apex, apex and base bisinuate, the former fringed with hair at margin, about half the width of base, anterior angles produced and subacute, base scarcely lobed at middle, posterior angles produced and acute; disc with smooth medial depressed line for the greater part, closely and rather finely punctate on middle, coarsely and closely on sides. *Scutellum* subcordiform, concave, and smooth. *Elytra* oblong, widened at shoulders and again behind the middle, there widest; sides nowhere serrated, apex subtruncate, or widely rounded with a short tooth at each sutural extension; with ten deep striae, the first bifurcating behind the scutellum, forming a short extra stria, the sixth and seventh originating behind the humeral callus, all intervals convex and sparsely and rather coarsely punctate. *Underside* coarsely punctate, the punctures becoming finer on abdomen, the front margins of segments quite smooth, sternum and first segment of abdomen with sparse long whitish hairs, otherwise almost glabrous. *Tarsi* with wide teeth at their origin. *Dim.*, 40 × 17 mm.

♂. 31-35 × 13-15 mm. Elytra without the postmedial fascia or apical coloration. The whole elytra orange-red. Two specimens in Mr. H. W. Brown's collection.

*Hab.*—Western Australia: Cue (H. W. Brown).

A magnificent insect, of which several specimens were captured by that indefatigable collector, Mr. Brown, at Cue. While standing near *vitticollis*, MacL., it is quite distinct from that species in its more brilliant and varied colour, narrower and shorter fascia, apex of elytron not bidentate, base of thorax not excised, etc. Type, female, in the author's collection.

## STIGMODERA RUFOCYANEA, n. sp.

Pl. ix., fig. 10.

Elongate-oblong. Whole surface and appendages dark-blue, with the following sanguineous red markings, margins of prothorax, elytra with a wide oblong lateral patch behind the shoulder, and a wide lateral vitta extending from behind the middle to the apex.

*Head* lightly concave, canaliculate, closely punctate at base and sides, more distantly at middle and apex, the punctures round and deep, with two raised laevigate spaces on forehead. *Prothorax*  $5 \times 9\frac{1}{2}$  mm., slightly bisinuate at apex and base, the former distinctly produced at middle, the latter with wide shallow medial lobe; widest at middle, thence nearly straight to the base and arcuately converging to the apex, this about two-thirds as wide as base: anterior angles obtuse, posterior produced and acute; disc rather flat, margins slightly explanate; irregularly punctate, punctures round, denser in front and sides, lateral margins rugose punctate; medial line laevigate, terminating behind in a wide shallow depression, two large basal foveae near margins. *Scutellum* oval, concave, laevigate. *Elytra* rather depressed, less wide than prothorax at base, sides subparallel, apex simply rounded; punctate-striate, intervals nearly flat except near apex, and sparsely punctate, the third and fifth meeting before the apex, as also the seventh and eighth, leaving a small rugose space. *Underside* finely and closely punctate, with irregular clothing of thick long hair. Hooks of *tarsi* very slightly enlarged at their origin. *Dim.*,  $27 \times 10$  mm.

*Hab.*—Australia. (Type in Macleay Museum.)

A single female specimen in the Macleay Museum, labelled "Australia," is in form, especially of prothorax, like *limbata*, Don., and *menalcas*, Thoms., but is more depressed, with flatter elytral intervals; in colour it is not unlike *Metaxyomorpha grayi*, Parry, the lateral blood-red markings contrasting with the dark-blue surface, making it an exceptionally beautiful species. *Chibanti*, Théry, has blue elytra, with prothorax having a red disc, besides other notable differences.

## STIGMODERA NOTATICOLLIS, n. sp.

Pl. x., fig. 36.

♂. Elongate-oblong. Head cyaneous (or greenish) with pale pubescence, antennae golden-green, prothorax very dark-blue, with a small red spot at the anterior angles, and a large, oblique, triangular red mark on the sides: widest near, but not reaching the base, and narrowing to a fine angle near the

apex, and extending below over the greater part of the prothoracic episterna; elytra orange-red, sanguineous at sides, with the suture and apex narrowly cyaneous. In one specimen this sutural coloration enlarged behind the scutellum and again before the apex into a large macula, with a small spot of the same colour on each side near the middle. In the other specimen the postscutellary macula only slightly indicated; sternum and femora blue, tibiae and tarsi greenish, the last red on the underside, abdomen yellow.

*Head* lightly excavated and channelled, regularly punctate. *Prothorax*  $4 \times 6\frac{1}{2}$  mm., convex, apex slightly produced in middle, base lightly bisinuate, the base of elytra fitting angulately into a small excision near posterior angles, medial lobe wide and straight behind, sides lightly and evenly rounded, anterior angles deflexed and obtuse, posterior a little produced and acute; disc finely and evenly punctate, with a smooth medial line, and a basal fovea at each excision. *Scutellum* elongate-ovate, concave, smooth. *Elytra* of same width as prothorax at base, sides nearly straight and without denticulation, apex without spines and subtruncate; striate, intervals nearly flat on disc, a little convex at sides and apex. *Sternum* finely, abdomen minutely punctate, the former rather densely clothed with long white hair. *Tarsal hooks* finely lobate. *Dim.*, 19-20  $\times$   $7\frac{1}{2}$ -8 mm.

*Hab.*—New South Wales: Berrima. Type in Macleay Museum.

Two male specimens in the Macleay Museum, with locality labels in the handwriting of the late Mr. Masters, are the only specimens I have seen of this distinct species. With the form of *praecellens*, Kerr., and *erubescens*, Blackb., the coloration of the elytra is somewhat as in *affinis*, Saund., with the prothoracic margins somewhat as in *conspicillata*, White.

#### STIGMODERA BLACKBURNI, n. sp.

Pl. x., fig. 12.

Oblong-oval. Head, pronotum, and underside bright, bronze, the first and third with a greenish tinge, the second purplish, elytra flavous-sanguineous at base and sides, with basal margin, two fasciae, and apical spot dark-green, the first fascia premedial, formed by three large maculae nearly connected but not extending to sides, the second postmedial, nearly straight, not quite reaching the sides, the apical spot large, bifurcated laterally, scutellum, legs, and tarsi green.

*Head* densely punctate, excavated, and channelled between eyes. *Prothorax* moderately convex, slightly advanced in middle at apex, nearly straight at base, widest behind



middle, thence converging gradually to base, more steeply towards apex, all angles obtuse; disc with large and scattered punctures on posterior half, finer and closer at sides and apex, a smooth medial line on basal half and two small foveae at base. *Scutellum* elongate-triangular, a large fovea on anterior, a few deep round punctures on central part. *Elytra* little widened behind shoulders and middle, three and a half times the length of prothorax, rather widely rounded behind, posterior margins serrated, the apices bidentate with small semicircular excision; punctate-striate, the intervals gently convex at middle, sharply so at sides and apex, a little wrinkled and sparsely punctate. *Sternum* with large round punctures close and regular; abdomen with much finer and closer punctures and almost glabrous. *Tarsal hooks* simple. *Dim.*, 21 × 9 mm.

*Hab.*—South Australia (Blackburn Collection). Type (unique) in South Australian Museum.

A single female in the South Australian Museum is superficially like *alexandri*, but differing widely as follows:—(1) Wider and more robust form; (2) abdomen green-bronze; (3) apices of elytra more widely rounded and simply bidentate, not strongly spinose. From *robusta*, Saund., besides great differences in colour, it differs widely in form, being more elongate, with a quite different apical structure. The pre-medial fascia is concave towards the front and leaves a space of three elytral intervals at the sides; the postmedial fascia leaves only one interval uncovered on each side. I have much pleasure in naming a South Australian species after the scholarly entomologist who did so much to extend our knowledge of the insect fauna of Australia.

STIGMODERA ALEXANDRI, n. sp.

Pl. x., fig. 13.

Elongate-ovate, subdepressed, strongly attenuated behind. Head, pronotum, sternum, antennae, and scutellum nitid-bronze, slightly greenish, legs bluish, the first blue at apex; elytra orange-yellow with the base narrowly, three ante-medial oval spots, sometimes narrowly connected into a fascia, the sutural one largest and extending to the scutellum, the other two placed obliquely behind the humeral callus; a short postmedial fascia, widened at suture and the apex narrowly blue-black; abdomen yellow.

*Head* channelled and widely excavated, coarsely punctate. *Prothorax* convex, nearly straight in front, slightly raised in middle, bisinuate at base, with wide medial lobe; widest behind middle, the sides boldly widened near base



then obliquely narrowed to apex, subsinuate near the denticulate posterior angle, anterior angles depressed and acute; irregularly punctate, the punctures coarse and close at sides, sparse at base, close and fine towards apex, medial line smooth. *Scutellum* scutiform, depressed, and smooth. *Elytra* rather flat, more than twice as long as wide, of same width as prothorax at base, strongly attenuated behind, with apical margins serrated, each apex with a strong oblique lunation with a long external and short sutural spine; striate-punctate, intervals nearly flat, densely and finely punctate. *Prosternum* closely, mesosternum coarsely, metasternum and abdomen very finely punctate and sparsely pubescent. *Dim.*, 16-19 × 6-7 mm.

*Hab.*—Western Australia: Mullewa and Cunderdin (Miss J. F. May and Western Australian Museum).

Four specimens, one male, three female, vary in their elytral pattern; the three females are coloured as above, except that in one example the antemedial spots are narrowly connected to form a fascia, while in another the postmedial fascia is narrowly interrupted at the suture. In the male the only dark markings are a small spot on each shoulder, a small postmedial spot halfway between suture and sides on each elytron, and the extreme apex narrowly. There is no doubt as to the conspecific nature of the four examples. The male and one female were on the same card in Mr. Lea's collection from Mullewa; the other two, similarly labelled, from Cunderdin, were sent respectively from the South Australian and Western Australian Museums. The species are nearest to *jekellii*, Saund., from which it differs markedly in the wider basal two-thirds of the elytra, with its more attenuated apical third, and the strongly spined apex—this somewhat as in *semicineta*, C. and G., and *variopicta*, Thoms. The pattern is also different, the suture without any coloration. Type male in Mr. Lea's collection; female in South Australian Museum.

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STIGMODERA RUFOLIMBATA, n. sp.

Pl. x., fig. 14.

Elongate-ovate, rather flat. Head and pronotum bronzy-black, antennae and apex of the former blue, the sides of the latter bordered red or orange; elytra blue-black, varied with yellow or red as following; two large rounded or oval basal spots not extending to the base, an undulating medial fascia narrowed near but not reaching the suture and produced laterally to the humeral angle, a narrower arcuate postmedial fascia not reaching the suture and produced laterally (in one

example quite, in two examples not quite) to the extreme apex, the lateral coloration brightly sanguineous throughout; underside and legs steel-blue, very nitid. Clothed with sparse white hairs.

*Head* sharply sulcate on front. *Prothorax* nearly straight at apex, moderately bisinuate at base, sides of male subparallel on basal third, of female subsinuate at base; feebly arcuate at sides and gently narrowing to the apex, anterior angles slightly advanced and rounded, posterior angles subrectangular; disc rather coarsely and closely punctate, smooth medial line sometimes apparent, a small central basal fovea and two shallow lateral depressions. *Scutellum* triangular, concave. *Elytra* of same width as prothorax at base, slightly widening behind shoulder, subsinuate near middle (subparallel in male, slightly enlarged behind the middle in female), sides near apex minutely serrated, the extremity with small oblique lunation; each elytron finely bispinose, the exterior spine more prominent; striate-punctate, seriate punctures large and distinct, intervals convex throughout, more strongly raised on apical half, the fifth, sixth, and seventh abruptly starting behind the humeral enlargement; intervals minutely punctate. *Sternum* densely and coarsely, abdomen finely punctate. *Dim.*, ♂, 15.7 × 5.6½ mm.; ♀, 17 × 6 mm.

*Hab.*—Western Australia: Cue (H. W. Brown).

In form and pattern somewhat of the *decemmaculata*, Kirby, type; but larger and without the yellow subapical and head spots of that species: the underside blue, sides sanguineous, *inter alia*. The upper-surface is coloured almost exactly like *pallidiventris*, C. and G., var. *cincta*, Blackb. The irregular striation in the humeral region is unusually marked. Types in the author's collection.

#### STIGMODERA BROWNI, n. sp.

Pl. x., fig. 15.

Elongate - subcylindric. Head, antennae, pronotum, sternum, and tarsi dark-bronze, the head with coppery and blue, the sternum with some cyaneous reflections; elytra blue, with three yellow fasciae as following; first subbasal, oval fascia not reaching base or suture, but produced on shoulder and humeral epipleurae as far as the lateral sinuation, second a medial undulate fascia, narrowed internally and externally, third an anteapical arcuate fascia; the last two fasciae not reaching the suture, but extending to the sides. Abdomen blue, with long white hairs; legs greenish-bronze.

*Head* widely excavated and channelled between the eyes; rugose-punctate. *Prothorax*,  $3 \times 4\frac{1}{2}$  mm., convex, widest near base, apex subsinuate, slightly advanced in the middle; base nearly straight, sides gently rounded and narrowing to apex, anterior angles a little advanced and obtuse, the posterior acute (about  $80^\circ$ ); disc densely punctate, subrugosely at sides; a smooth medial line faintly indicated near base, terminating in a small fovea with two very shallow lateral impressions. *Elytra* of same width as prothorax at base, and three and two-thirds times as long, sides subparallel, lateral sinuosity scarcely evident from above, serrated near apex, extremity with moderately wide oblique lunation; each elytron shortly bispinose, exterior spine conspicuous; striate-punctate, intervals flat on disc, sharply costate near apex, rather coarsely and unevenly punctate. *Sternum* coarsely rugose, abdomen with first two segments densely and coarsely, the apical more finely punctate. *Dim.*, 15-16  $\times$  5 mm.

*Hab.*—Western Australia: Cue (H. W. Brown).

In form somewhat near *longicollis*, Saund., in pattern near the *australasiae*, L. and G., type; but the prothorax is more cylindric than that of the former species, as depicted by Saunders, while the blue coloration is much more vivid than in *australasiae*. Two specimens sent by its indefatigable captor. Type in the author's collection.

#### STIGMODERA DESIDERIA, n. sp.

Pl. x., figs. 16 and 17.

Elongate subparallel, moderately convex. Head, thorax, underside, legs, and elytra blue or violet-blue, the last marked yellow as follows. Male with wide subbasal fascia parallel to the base, but not reaching it nor the suture, and produced widely on the sides to beyond the middle, two antemedian pear-shaped maculae, one on each side of the suture, an irregular horizontal anteapical fascia extending to the sides but not reaching the suture; in the female the subbasal fascia is produced downwards on the disc to meet and include the antemedian spots; antennae and tarsi bronze.

*Head* excavated and canaliculate on front, regularly and closely punctate. *Prothorax* widest at middle, apex and base bisinuate, the latter more strongly so; sides evenly rounded, slightly narrowing to the apex; disc rather unevenly, not coarsely punctate, densely so at the sides, a depressed smooth medial line evident on basal half, terminating in a minute fovea; two slight lateral depressions. *Scutellum* subcordate, concave, laevigate. *Elytra* slightly enlarged at shoulders,



little constricted at middle, border serrated near apex; each elytron bispinose, with small oblique excision at extremity, exterior spine the more prominent; striate-punctate, seriate punctures small, intervals flat on disc, the sutural intervals costate towards apex, intervals unevenly and sparsely punctate. *Abdomen* and sternum finely punctate, and sparsely clothed with whitish hair. *Dim.*, ♂,  $14\frac{1}{2} \times 5$  mm.; ♀,  $16 \times 6$  mm.

*Hab.*—Western Australia: Cue (H. W. Brown).

The sexual coloration as above may be accidental and individual, but the pattern alone distinguishes it from other described species. Somewhat similar in shape to *browni* (*supra*) and *longicollis*, Saund., it is flatter and less cylindric than the former. The only species to which it may be compared in colour scheme of the elytra is *praececellens*, Kerr., but in general form and structure is nearest to *longicollis*, Saund. Types in the author's collection.

STIGMODERA NEGLECTA, n. sp.

Pl. x., fig. 18.

Elongate-ovate. Head, pronotum, and underside blue, pronotum and sternum with some bronze reflections; elytra yellow with the following dark-blue markings; basal margin, wide oblique vitta behind the shoulders, an elongate-oval antemedial spot on the suture, wide postmedial fascia and apical patch, the sutural spot, fascia, and apical patch connected along the suture; antennae and legs blue.

*Head* furrowed and lightly excavate in front; densely, not deeply punctate. *Prothorax* lightly convex, nearly straight at apex, strongly bisinuate at base, widest at base, sides arcuately narrowing to apex, all angles a little acute; disc with large round punctures, sparsely placed behind, becoming dense and finer on front half; with an elongate central fovea and two oval foveae at base. *Scutellum* cordate and depressed. *Elytra* slightly wider than prothorax at base, sides lightly sinuate, apex bidentate with a rather wide shallow excision between teeth, posterior margins entire; striate-punctate, intervals flat on middle, strongly convex at sides and apex; quite impunctate (except in humeral swelling). *Sternum* strongly, abdomen very finely punctate and clothed with dense recumbent hair. *Dim.*,  $17 \times 7$  mm.

*Hab.*—New South Wales: Blue Mountains. Type in author's collection.

I find a female specimen misplaced amongst a series of *undulata*, Don., which it resembles closely at first sight, especially in the elytral pattern and size; otherwise I can



find nothing very near it. The following comparison with *undulata* will serve to distinguish it, *inter alia*.

*S. undulata*.

*Colour* — Head, pronotum, and underside bronze-green, elytral markings dark-green.

*Prothorax* strongly convex, widest near middle.

*Apices of elytra* simply rounded.

*Abdomen* glabrous, or nearly so.

*S. neglecta*.

Head, pronotum, underside, and elytral markings blue, prothorax above and below with patches of bronze.

Lightly convex, widest at base.

Widely excavate and bidentate.

Densely pubescent.

STIGMODERA PROPINQUA, n. sp.

Pl. x., fig. 19.

Elongate, subcylindric. Head, antennae, prothorax, legs, and underside blue, the last very brilliant; elytra yellow, with two small humeral spots and a sutural spot between these, a straight (sinuate on its margins) postmedial fascia, and a preapical macula varying from elongate-ovate to triangular, blue-black, the last produced to the apex at the suture.

*Head* moderately excavated and rather deeply channelled, closely punctate. *Prothorax* convex, apex slightly produced at middle, base very lightly bisinuate, widest at base, thence arcuately converging to apex, anterior angles deflexed and widely obtuse, posterior deflexed and subrectangular, disc evenly, not coarsely, punctate, smooth medial line indicated near base, terminating in a shallow fovea. *Scutellum* subcordate, concave, laevigate. *Elytra* of same width as prothorax at base and about three times as long, sides very lightly sinuate, apex minutely lunate and very shortly bispinose; striate-punctate, intervals convex throughout, minutely and sparsely punctate. *Sternum* coarsely and densely, abdomen finely and densely punctate. *Dim.*, 15 × 5 mm.

*Hab.*—South Australia. Types in Macleay Museum.

Two specimens (the sexes) in the Macleay Museum are near *conversa*, *mihi*, in colour and pattern of the elytra, but differ markedly in the following details: colour of prothorax and underside (coppery-bronze in *conversa*), less cylindric form, much less strongly punctured surface, with entire absence of any denticulation of sides near apex, the antemedial spot not connected with the fascia on the suture. It differs from *longicollis*, Saund., in its much shorter prothorax and different elytral pattern, more convex form, etc.

*S. convexa*, Cart.—In my description of this I stated of the elytra, "Margins entire to apex." There is, however, a minute denticulation quite close to the apex, which I overlooked.

STIGMODERA PISCIFORMIS, n. sp.

Pl. x., fig. 20.

♂. Ovale, much attenuated behind. Head dark-bronze, prothorax, scutellum, and underside dark-blue with bronzy reflections; antennae and legs blue, elytra red, with the base, two straight fasciae (the first antemedian, not extending to the sides, branching at the suture to the base, the second postmedian extending the full width and slightly widened at the middle), and the apical tenth blue-black, the apical macula with straight anterior margin.

*Head* deeply excavated, widely channelled, punctate and pubescent. *Prothorax* very convex, widest (subangulately widened) a little in front of base, thence rather straightly narrowing to apex, apex arcuate, base bisinuate and less than twice as wide as apex, medial lobe wide, anterior angles slightly produced and acute, posterior obtuse; disc rather strongly punctate, the punctures round and close, subconfluent at the sides, medial line smooth. *Scutellum* subcordate, concave, laevigate. *Elytra* depressed, of same width as prothorax at base, widened behind shoulders, lightly sinuate at middle, apical third strongly narrowed, denticulate at margins, the apex of each elytron with strong oblique lunation and bispinose, exterior spine prominent; striate-punctate, intervals flat or nearly so throughout, distinctly but sparsely punctate. *Sternum* coarsely, abdomen finely and densely punctate, almost glabrous.

♀. Differing only in colour from the male. Pronotum and underside with bronzy tints prevailing over the cyaneous, the antemedian fascia only represented by humeral spots and an enlarged sutural macula, the post medial fascia absent. *Dim.*, 15 × 5 mm.

*Hab.*—South Australia (types in Macleay Museum); Western Australia: Eucla (C. French).

Three specimens examined are the only examples I have seen. It is not, therefore, possible to state that the above coloration is a constant sexual difference, but I am convinced that the three examples are conspecific. The form of both prothorax and elytra is unusual, the former abruptly widened near the base, the latter strongly attenuated and spinose. The nearest to it in general form are *confinis*, Kerr., and *thomsoni*, Saund., but differs from the latter, besides markings in less sinuate and more attenuated form, and its flat and distinctly punctate elytral intervals.

## STIGMODERA ARGILLACEA, n. sp.

Pl. x., fig. 21.

Moderately convex, oblong, sharply attenuated behind. Head dark-blue, pronotum dark-bronze with coloured reflections, the former with large yellow spot on centre, the latter evenly bordered yellow, scutellum, antennae, and tarsi blue, elytra brick-red with the following markings peacock-blue, wide basal and apical margins, suture, two fasciae, the first (not quite reaching the sides) in front of, the second (extending to sides) behind the middle, and a nearly straight longitudinal vitta from the humeral angle to the first fascia (leaving an elongate red patch at the sides); between the second fascia and the apex the suture widened into a diamond-shaped spot; underside yellow, abdominal segments margined red, femora and (in part) tibiae red, rest of tibiae peacock-blue.

*Head* with shallow channel between eyes but not excavated; metallic parts coarsely, the yellow spot more finely punctate. *Prothorax* arcuate at apex, bisinuate at base, sides widest behind middle, arcuately narrowed to apex, all angles slightly obtuse; disc densely punctate, except near base, the punctures here larger and more distinct. *Scutellum* cordate, concave, nearly smooth. *Elytra* with narrow collar at base, forming a bead-like projection at shoulder, sides widened behind shoulder and slightly so behind middle, then converging sharply to apex; each apex trispinose, the middle spine longest, posterior margins entire; striate-punctate, the punctures in striae small, intervals flat on middle, convex at sides and apex, and themselves strongly punctate, the punctures thereon as large as those in the striae. *Underside* glabrous, with coarse shallow punctures, coarse on prosternum, fine on abdomen. *Dim.*, 13-15 × 5-5.5 mm.

*Hab.*—North-western Victoria: Hattah (J. E. Dixon).

Four examples sent by Mr. Dixon, who captured many others in this district. While belonging to the *S-spilota*, C. and G., group, and a near ally to that species, it is clearly distinct not only by ground colour, and that of the legs and pattern, but especially in the quite different and coarser punctures of the elytral intervals, besides being of a slighter and different shape. I have compared it closely with the type of *rufipes*, MacL., and find a similar difference of sculpture, besides differing in pattern and colour, though alike in its leg coloration. In one of my examples the premedial fascia is interrupted. Types in the author's collection.

N.B.—*S. rufipes*, MacL., though possibly a variety of *S-spilota*, C. and G., differs from the typical form in the following. *Prothorax* with red line near and parallel to apex



and a red spot at middle near base. *Elytra* with dark violaceous markings as follows: base, apex (widely), post-medial fascia, oval shoulder vitta; suture, the last widened into a diamond-shape spot opposed to the lateral vitta, the prothoracic margin narrow in front, much widened behind (as in *8-spilota*). Form oblong, scarcely enlarged behind middle. There are two specimens in the Macleay Museum. The name should be kept for this well-marked Queensland variety.

STIGMODERA SERRATIPENNIS, n. sp.

Pl. x., fig. 22.

Elongate-ovate. Head, pronotum, and scutellum violet-black, the first with a large yellow spot, the second with the margins widely yellow; elytra violaceous, large oval base, small preapical, epipleural spots, and two fasciae yellow, one medial the other postmedial, both extending to sides but not to the suture; centre and flanks of prosternum, the greater part of mesosternum and metasternum, first abdominal segment, and the middle and sides of the other segments yellow, the rest of underside and legs bronze-black, with short sparse hairs.

Head slightly concave, widely channelled, with sparse round punctures. *Prothorax* straight in front, lightly bisinuate behind, anterior angles obtuse, posterior rectangular, widest behind middle, sides evenly rounded, disc moderately punctate, with smooth medial line. *Scutellum* cordate, deeply foveate or subsulcate on anterior half. *Elytra* convex, slightly widened at shoulders, sides gradually narrowing behind, strongly and coarsely serrated on apical third; extreme apex lunate, with each clearly bispinose, the sutural spine short, the outer dentate. *Dim.*, 15-16 × 5-6 mm.

*Hab.*—Western Australia: Cue (H. W. Brown).

Two specimens examined come very near the well-known *8-spilota*, C. and G., and *10-maculata*, Kirby, but differ from both in—(1) elytral pattern, the medial and postmedial spots being replaced by fasciae extending to the sides; (2) legs and dark portions of underside dark-bronze, instead of blue or variegated, with more dark colour than in the above-mentioned species; (3) the strong serration of apical border of elytra (entire in *8-spilota* and *10-maculata*); (4) each apex bispinose, instead of trispinose. Type in the author's collection.

STIGMODERA MACULICOLLIS, n. sp.

Pl. x., fig. 23.

♂. Elongate-ovate, attenuated in front and behind. Head and antennae black, the excavate front red, with a

black spot at the base: pronotum red with a central black macula covering a large portion of disc; elytra red with a narrow basal border and the apex black; underside black, with the prosternum, spots on the mesosternum and metasternum, and a transverse band on each abdominal segment red; legs variegated, the upper-surface of femora and base of tibiae black, the rest and tarsi red.

*Head* widely excavated between the eyes, rather distantly and clearly punctate. *Prothorax* moderately convex, sides rather strongly widened behind middle, thence gradually converging to the apex and more suddenly towards the base, apex slightly, the base strongly bisinuate, apex somewhat advanced at middle, the middle lobe of base wide, with the base of elytra subangularly produced forward halfway between the scutellum and posterior angles, the last subacute; disc with clear round punctures, irregularly not closely placed, a smooth medial line on basal half. *Scutellum* subcordate, raised, with depressed centre, and finely punctate. *Elytra* rather flat, slightly expanded and widest at the shoulders, compressed at middle and thence converging to the apex; each elytron strongly bispinose at apex, the exterior spine the longer, space between spines rather narrow; striate-punctate, seriate punctures small and close, intervals moderately convex, more strongly so towards sides and apex, and transversely striolate, with a few small punctures. *Underside* glabrous, evenly and finely punctate. *Dim.*, 14 × 5 mm.

*Hab.*—Queensland. Type in National Museum, Melbourne.

A single specimen from the French Collection in the Melbourne Museum is labelled "Queensland, *sp. nov.*," the last words in the handwriting of the late Canon Blackburn. It is not very close to any described species, and may be recognized by its unusually coloured pronotum and the variegated legs and underside.

STIGMODERA HASWELLI, n. sp.

Pl. x., fig. 24.

Cylindric, robust. Head, pronotum, and sternum dark-green, the first blue at apex, the second with bronzy reflections, scutellum and legs blue, elytra orange-yellow, sanguineous at base and margins, with extreme base narrowly, and seven large spots bright blue: two oval placed obliquely behind the shoulder, with a club-shaped spot on suture between these, having a narrow extension to the scutellum, three forming an interrupted postmedial fascia, the sutural spot of these diamond-shaped (in one example narrowly connected on one side with the lateral spot), the two lateral

transversely extending to the sides, and a triangular apical spot, with its apex at the apex of the elytra, bordered on each side sanguineous; abdomen red.

*Head* excavated and channelled, and, like the pronotum, densely punctate. *Prothorax* very convex, nearly straight in front, slightly bisinuate behind, sides gently and evenly rounded, oblique anteriorly, anterior angles depressed and wide, posterior rectangular, without medial impression. *Scutellum* triangular, depressed, and punctate. *Elytra* of same width as prothorax at base, less than twice as long as wide, sides nearly straight, little narrowed behind, each apex subtruncate with two very short equal spines, subapical margins entire; punctate-striate, intervals closely and finely punctate, nearly flat on disc, the first three wider than the rest, external two costate. *Underside* finely punctate, with short white pubescence. *Dim.*, 12-13 × 4.7-5 mm.

*Hab.*—Queensland: Duaringa; and South Australia (?). Macleay and South Australian Museums.

Two specimens, both female, examined. The type from Duaringa, the other labelled "Jung" (collector's name), probably from South Australia. It is near *burchelli*, C. and G., and *cara*, Blackb., but differs from the first by its yellow abdomen and elytral pattern, from the second in the absence of sub-apical serration (said to be "*fortiter denticulatis*" in *cara*) and the widely subtruncate apices, besides having a different elytral pattern. I have named it after Professor Haswell, the honorary director of the Macleay Museum. Type in Macleay Museum.

#### STIGMODERA LEPIDA, n. sp.

Pl. x., figs. 25 and 26.

Elongate-acuminate, subcylindric. Head and pronotum dark violet-blue, the former with some coppery reflections, elytra blue with orange or brick-red markings as following: two oval basal spots not quite reaching the base, two narrower antemedial oval spots behind the former (in the female example the first pair coalesce with the second pair, forming an irregular longitudinal stripe); a narrow marginal stripe extending from the base to the end of the anteapical fascia (in the male this is narrowly connected with the basal spot, in the female not so); an irregular, postmedial, horizontal fascia, not nearly reaching the suture, and a somewhat similar anteapical fascia; underside of male dark metallic-copper, very nitid, of female blue-black, with coppery reflections.

*Head* and pronotum regularly punctate, the former depressed and channelled on front, the latter moderately convex, with faint indication of a medial line near the basal



fovea. *Prothorax* with apex nearly straight, base bisinuate, sides rounded and narrowed anteriorly, anterior angles depressed and obtuse, posterior subrectangular. *Elytra* narrowly subcylindric, acuminate at apex, the sides not serrated; each extremity with a small oblique excision, scarcely spinose; striate-punctate, the seriate punctures small and little evident, the intervals flat on disc, convex near apex, and almost smooth. *Sternum* finely, abdomen minutely punctate, with rather close, whitish pubescence. *Dim.*, 9-11  $\times$  3-4 mm.

*Hab.*—Western Australia: Cue (H. W. Brown).

A small species, evidently very near but apparently not *mansueta*, Kerr.; also near *xanthopilosa*, Hope. The colour does not tally with the description of the former, the prothorax being blue (not green) and not “*silloné longitudinalement.*” The elytral markings also are red (not yellow), while Kerremans says of his species, “*Moins acuminé au sommet et un peu plus large que S. elongatula*, Macl.” In my species the apex is considerably more acuminate than in *elongatula*. Types in the author's collection.

#### STIGMODERA OCTOCOSTATA, n. sp.

Pl. x., fig. 27.

♂. Elongate-subcylindric. Head, antennae, and elytra uniform blue-black, pronotum yellow with three black markings, the first medial club-shaped, the oval club occupying the front part, with a straight stem exactly filling the wide medial sulcus on basal half, the other two dumb-bell shaped, symmetrically placed on each side of the middle, the basal ball of dumb-bell exactly occupying a round basal depression near the hind angles; prosternum yellow with a black basal border extending forward on each side; rest of underside and legs a rich dark-blue, quite glabrous.

*Head* excavated between the eyes, closely punctate. *Prothorax* convex, widest at middle, sides evenly and rather widely rounded, nearly straight at apex and base, a little wider at base than at apex, all angles obtuse; disc with wide central depression on basal half and two large depressed foveae at sides; densely and evenly punctate. *Scutellum* widely triangular, depressed, and punctate. *Elytra* strongly widened at shoulders, then subparallel to near apex, there each elytron very finely bispinose; base irregular, each elytron angulately produced forward at the middle, the angle being formed by the short scutellary costa meeting the raised humeral margin and overlapping the base of prothorax; disc with three well-raised costae, the first pair meeting within the basal angle and continuous to the apex, terminating there

in the short spines, the third costa originating behind the humeral callus and not quite extending to apex, the sides and suture also subcostate; between the suture and first costa is another shorter raised interval on basal half; all costae smooth and nitid, the interspaces densely and rather finely punctate. *Prosternum* and metasternum with large, rather distant punctures; abdomen densely and finely punctate. *Dim.*, 11.5 × 3.5 mm.

*Hab.*—Australia. Type in National Museum, Melbourne.

A single specimen from the French Collection in the Melbourne Museum bears no locality label, but is so distinct from all known species as to deserve description. While carinated, somewhat as in *impressicollis*, Macl., and *spinolae*, C. and G., so far as the elytra are concerned, it is very different in colour and form, notably in the curiously patterned pronotum and the quite irregular base of the elytra, with the angle not fitting into but overlapping the prothorax. It is unfortunate that the locality has not been accurately noted for this pretty little species.

STIGMODERA SEXNOTATA, n. sp.

Pl. x., fig. 28.

Elongate-ovate, attenuate in front and behind. Mouth and scutellum blue, head greenish-bronze, prothorax red, this colour extending over the prothoracic episterna, with a spade-shaped discal spot green-bronze, widely covering the apical, narrowly the basal half; elytra rufo-sanguineous, the discal parts paler, with the base and six spots blue, three a little in front of the middle, the sutural one slightly in front of the other two, three behind the middle, the sutural one behind the other two; sternum green-bronze; abdomen blue, densely clothed with white adpressed hair.

*Head* excavated, channelled, closely punctate. *Prothorax* convex, widest behind middle, apex arcuate, base strongly bisinuate, middle lobe produced, sides widely rounded a little in front of base, thence arcuately converging to apex, anterior angles embracing the head, and (seen from above) acute, posterior slightly produced, acute; disc densely punctate, a smooth depressed medial line on basal half terminating in a small fovea. *Scutellum* subcordate, depressed, laevigate. *Elytra* of same width as prothorax at base, widened behind shoulders, thence nearly straight, not much narrowed and minutely denticulate towards apex; each apex sharply bispinose, with a short internal and a rather pronounced external spine; striate-punctate, intervals nearly flat and rather densely punctate. *Sternum* strongly, abdomen finely

punctate, the latter obscured by hair. *Dim.*, 12-13  $\times$  4-4 $\frac{3}{4}$  mm.

*Hab.*—Western Australia: Cunderdin. Type in Western Australian Museum.

Three specimens, identical in colour and markings, suggest *coccinata*, Hope, or *guttaticollis*, Blackb., in the prothoracic coloration, but are without the lateral spots of the former, and with larger discal markings than the latter. The elytral spots are placed as in *septemspilota*, mihi (which has the apex dark and is differently shaped). A very distinct species that I have seen in no other collection.

STIGMODERA ATTENUATA, n. sp.

Pl. x., fig. 29.

Elongate, attenuated in front and behind. Head coppery, with purple reflections, mouth blue, antennae green; pronotum purple with greenish reflections, elytra yellow with narrow basal margin green; scutellum red with green border; underside cyaneous, the episterna and margins of abdomen dark-green.

*Head* excavated and canaliculate, with rather large irregular punctures. *Prothorax* widest at base, slightly convex in middle, rather flat and explanate at sides, both apex and base very moderately bisinuate, the obtuse anterior angles a little produced, the posterior rectangular not produced, sides narrowed in a gentle curve from base to apex; disc finely punctate on middle, coarsely and sparsely at sides; a faint medial depression terminating behind in a round fovea; two large foveate depressions near the posterior angles. *Scutellum* cordate, depressed, and nearly smooth. *Elytra* elongate, navicular, three and one-third times as long as the prothorax, slightly widened behind shoulders, the sides then gradually tapering to a fine apex, nowhere serrated, apex lunate, and each elytron bispinose, the interior spine very short, the external long; striate-punctate, intervals irregularly and strongly costate as follows: third and fifth intervals strongly costate, together originating at the base, the third continuous to the base and produced into the strong external tooth, the fifth joining the seventh before the apex, the eighth, ninth, and tenth narrower than the third and fifth, and originating behind the humeral callus, sixth interval briefly carinate then widely convex, sutural, scutellary, and other intervals flat. *Prosternum* coarsely, the rest of underside very finely punctate, with sparse short hair. *Dim.*, 12-14  $\times$  4-5 mm.

*Hab.*—Victoria: Fernshaw and Gippsland.



Two specimens (the sexes) examined belong to the *parallela*, Saund., section, but differ from that species in the navicular form, costate elytra, and the brilliant but dark coloration of the pronotum and underside. It is also near *impressicollis*, Macl., but differs in the form of prothorax and in the colour of pronotum and underside. Types in the National Museum, Melbourne.

STIGMODERA PLANATA, n. sp.

Pl. x., fig. 30.

Ovate, depressed. Head, antennae, prothorax, scutellum, underside, and legs golden-green, elytra pale-yellow.

*Head* excavated and channelled, closely punctate. *Prothorax* straight in front, bisinuate behind, anterior angles deflected and rounded, posterior slightly produced and subacute, widest at base, narrowing arcuately to the apex; disc densely evenly punctate, with a smooth medial line terminating at the base in a small fovea. *Scutellum* cordiform, depressed, smooth. *Elytra* ovate, rather flat, sides very little sinuate, not serrated behind; apex with a minute oblique lunation, finely bispinose; striate-punctate, the flanks of prosternum densely rugose-punctate. *Sternum* coarsely, abdomen very finely and densely punctate. *Dim.*, 13 × 5 mm.

*Hab.*—Western Australia. Type in the National Museum, Melbourne.

Two specimens, both male, examined. The species comes near *punctiventris*, Saund., and *dispar*, Blackb., and some varieties of *guttata*, Blackb., from all of which it differs in its more depressed form, more ovate elytra, and the close and even puncturation of the whole upper-surface (including the elytral intervals), and the absence of any dark coloration of the elytra (in one specimen there is a very narrow basal green margin perceptible). From *dispar*, Blackb., it differs in larger size, flatter surface, and smaller apical lunation. *Cinnamomea*, Macl., is sometimes very like it, but the abdomen is always yellow and the prothorax very different (more convex and with coarse sparse punctures); *igneae*, Blackb., is another ally, with coppery thorax and underside, with some dark markings on the elytra.

STIGMODERA ACUTICOLLIS, n. sp.

Pl. x., fig. 31.

Elongate-ovate. Head and pronotum nitid bronze-black or tinged with blue, elytra red with suture and extreme apex black, antennae, underside, and legs dark-blue.

*Head* excavated and channelled, regularly not densely punctate. *Prothorax* unusually short, moderately convex, arcuate at apex, bisinuate at base; widest at base, the sides converging in a feeble curve (a little sinuate near front) to apex, all angles distinctly produced and acute, the anterior markedly so; disc nitid, sparsely punctate, without any medial depression or line, with a medial basal fovea. *Scutellum* cordate, depressed in middle. *Elytra* slightly enlarged behind shoulders and again behind the middle, posterior margins entire, apices finely bispinose, exterior spine more prominent; punctate-striate, all intervals convex and finely punctate, the alternate intervals costate. *Underside* moderately closely punctate and nearly glabrous. *Dim.*, 11 × 4 mm.

*Hab.*—Southern Queensland: Duaringa, Brisbane (A. M. Lea). Type in Macleay Museum.

Two specimens examined belong to a species closely allied to *erythroptera*, Boisd., but differing as follows:—

*S. erythroptera.*

*Prothorax* subbulbous, sides rounded, surface subopaque, densely and finely punctate, with deep central depression, angles wide.

*Elytra*, three costae on each, interspaces flat, posterior margins serrated.

*Surface* above and below densely punctate.

*S. acuticollis.*

Lightly convex, widest at base, surface nitid and sparsely punctate, without medial depression, angles acute.

Three costae on each, less strongly raised, with intermediate intervals also convex, posterior margins entire.

Finely and more sparsely punctate.

In *subpura*, Blackb., the intervals are nearly flat and posterior margins serrated.

STIGMODERA TITANIA, n. sp.

Pl. x., fig. 32.

Narrowly elongate-oblong. Head, antennae, prothorax, scutellum, underside, and legs brilliant greenish-bronze, margins of prothorax with wide pear-shaped yellow markings narrowing to the apex, the widened part not quite reaching the base, and produced widely on the prothoracic episterna: elytra testaceous with the following markings blue-black, the base connecting with a large oval spot covering the humeral region, a straight postmedian fascia extending to the sides, deeply trifold on its anterior, less deeply so on its posterior margin and the apex, the last with a straight anterior margin.

*Head* deeply excavate, narrowly sulcate, closely punctate. *Prothorax* bulbous, apex straight, base strongly bisinuate, sides widely rounded, widest at middle, anterior angles depressed and obtuse, posterior depressed and acute, evenly and rather closely punctate, with distinct medial depression terminating in a basal foveate puncture. *Scutellum* subcordate, minutely punctate. *Elytra* of same width as prothorax at base, lightly enlarged at shoulders, and compressed at middle, feebly attenuate behind and very minutely denticulate near apical margins; each apex minutely lunate and feebly bispinose. *Underside* minutely punctate and densely covered with short white pubescence. *Dim.*,  $9 \times 3$  mm.

*Hab.*—Queensland: Endeavour River. Type in Macleay Museum.

A pretty little species, of which there are two examples in the Macleay Museum, the type female, the other possibly male. The elytral pattern is somewhat as in *coccinata*, Hope (*elegantula*, White), but *titania* is narrower, with prothorax differing in form and colour; nor has it the strong apical spines of that species. Hope's insect, moreover, has a yellow underside. It is perhaps nearest *unicincta*, Saund., in colour scheme, with a differently shaped base of elytra and additional markings. Otherwise I know nothing amongst the smaller species of the genus at all near it. The yellow margins of the prothorax are unusual in their outline, somewhat as in *notaticollis*, above, but the yellow area is proportionately much larger.

STIGMODERA PULCHELLA, n. sp.

Pl. x., fig. 33.

Oblong, attenuated behind. Head, antennae, prothorax, and elytra dark-blue, the last with pale-yellow markings as follows: two large round spots near base, two large ante-medial pear-shaped spots situated behind the former (the pear stalk directed upwards), a lateral ovate-triangular spot placed on each side between the other spots, and an arcuate anteapical fascia extending to the sides, but not to the suture; underside and legs a rich purple-blue.

*Head* excavated and canaliculate, closely and evenly punctate. *Prothorax* globose, the apex feebly, base strongly bisinuate, the middle lobe rounded and pronounced, sides well rounded, widest at middle: disc closely and regularly punctate, a smooth medial line faintly indicated on basal half, all angles a little produced, depressed, and wide. *Scutellum* subcordate, concave, and punctate. *Elytra* widened behind shoulders and again behind the middle, sides not at all serrated, apex lunate and bispinose, the internal spine minute,



the external prominent; punctate-striate, intervals nearly flat and closely and finely punctate, basal border raised and produced to form a short carina near scutellum. *Underside* densely and finely punctate, almost glabrous. *Dim.*,  $8 \times 2.5$  mm.

*Hab.*—Queensland. Type in the National Museum, Melbourne.

Two specimens (the sexes) from the French Collection in the Melbourne Museum are merely labelled Queensland. The species is near *gentilis*, Kerr., in size, form, and markings, except that in *gentilis* the basal spot is produced laterally, while in *pulchella* the three antemedian spots on each elytron are quite separated and clearly defined, while the hind fascia is not widened and sanguineous on the margin as in *gentilis*, and the apical lunation is more oblique, with the external spine more prominent.

STIGMODERA LEAI, n. sp., or var.

Pl. x., fig. 34.

Oblong, entirely peacock-green or blue, except the elytra, this with a latero-humeral spot, and preapical arcuate fascia yellow, the last interrupted at the suture and produced backwards on the margins nearly to the apex. Sculpture, form, and size as in *cyanicollis*, Boisd. *Dim.*,  $9 \times 3\frac{1}{5}$  mm.

*Hab.*—Tasmania: Huon River and West Coast. Types in A. M. Lea's collection.

Two species, male and female, of this pretty little species vary only in the shade of colour, one being distinctly blue, the other blue-green. It may only be a variety of *cyanicollis*, Boisd., differing from the well-known Victorian and Tasmanian var., *viridis*, C. and G., in the presence of the subapical fascia; but it certainly deserves nominal distinction.

STIGMODERA TINCTICAUDA, n. sp.

Pl. x., fig. 35.

Elongate-subcylindric, attenuated at apex. Head, prothorax, legs, and underside golden-green, elytra testaceous with apical third gradually suffused with red, antennae and tarsi coppery-bronze.

*Head* and *pronotum* strongly and evenly punctate: the former deeply excavated and channelled, the latter convex-arcuate at apex, strongly bisinuate at base, all angles slightly produced and acute, sides feebly arcuately narrowed from base to apex; disc with slight medial depression, terminating in a basal fovea. *Scutellum* cordate, depressed, and punctate. *Elytra* of same width as prothorax at base and two and a half times as long; punctate-striate, the alternate

intervals subcostate, all intervals minutely wrinkled, apex very finely bispinose, the spines black, external spine more evident. *Sternum* coarsely, abdomen less coarsely punctate, the latter with short white hairy clothing. *Dim.*, 6·5-8 × 2·5 mm.

*Hab.*—Western Australia: Yalgoo (H. W. Brown).

Two specimens sent by Mr. Brown belong to a species closely allied to *immaculata*, *mihi*, but clearly differentiated by the following differences—(1) form narrower, more convex, and attenuated behind; (2) pronotum less closely and more coarsely punctate; (3) seriate punctures smaller; (4) alternate intervals subcostate; (5) colour without sexual distinction, the apex strongly suffused with red, this gradually fading away towards the middle of elytra. Types in the author's collection.

STIGMODERA HIRUNDICAUDA, n. sp.

Pl. x., fig. 37.

Oblong-ovate. Head, pronotum, sternum, antennae, scutellum, and legs golden-green, elytra testaceous with narrow basal border and extreme apex narrowly blue-black, abdomen testaceous.

*Head* excavated and channelled between the eyes, evenly and closely punctate. *Prothorax* 4 × 3 mm., feebly bisinuate in front, more strongly so behind, convex, widest behind middle, thence arcuately narrowing each way, all angles a little obtuse; disc closely punctate, the punctures gradually diminishing in size from base to apex, with a raised smooth medial line near base. *Scutellum* arcuate-triangular, laevigate. *Elytra* of same width as prothorax at base and three times as long, rather flat and parallel for the greater part, then finely attenuated behind, posterior margins finely denticulate; each apex with a subobsolete sutural and a long external spine; striate-punctate, the striae containing series of well-marked round punctures, the intervals evenly and slightly raised, *even at sides and extreme apex*, and themselves finely punctate. *Sternum* coarsely, abdomen very finely punctate; underside glabrous. *Dim.*, 12·5 × 4·5 mm.

*Hab.*—Western Australia: Shark Bay. Type in collection of C. French.

A single male specimen is easily distinguished from its allies—*planata*, *mihi*, *moribunda*, Saund., *subpura*, Blackb., etc.—by the following combination:—Bright-green prothorax, pale-yellow abdomen, dark-blue apex, narrowly attenuate with the long external spine, and the rare character of evenly striate-punctate elytra with intervals symmetrically arranged, and evenly convex throughout.

## STIGMODERA FESTIVA, n. sp.

Pl. x., fig. 38.

Ovate. Head, antennae, thorax, scutellum, legs, and underside bronze, the first and last of these with a bluish tinge; elytra testaceous with large round spot near each shoulder, postmedial fascia and round apical spot black, the fascia enlarged and rounded on suture, contracted and again enlarged on each side and extending to the sides, area between fascia and apical spot bright-red.

*Head* deeply excavated and lightly channelled between eyes; closely and evenly punctate. *Prothorax* arcuate at apex, strongly bisinuate at base, rather bulbous on each side, widest near base, thence shortly contracted to the obtuse posterior angles, more gently converging to the acute anterior angles: disc evenly and closely punctate, with distinct medial channel terminating in a basal fovea, two small fovea near middle of each lobe, and a larger depression near posterior angles. *Scutellum* triangular, depressed, closely punctate. *Elytra* wide and flat, of same width as prothorax at base, widening strongly at shoulders and again behind middle, posterior margins entire, each apex with short sutural and long external spine; punctate-striate, intervals nearly flat on centre, raised at sides and apex, and minutely punctate. *Prosternum* coarsely, the rest of underside rather finely and closely punctate and almost glabrous. *Dim.*, 10 × 4 mm.

*Hab.*—Queensland: Rockhampton. Type in collection of C. French.

A single female specimen examined belongs to the *mustelamajor*, Thoms., section, from its similar structure of thorax and the form of the elytra, though the apical spines are less divaricate. In pattern it approaches that of *brutella*, Thoms., with the addition of two large round shoulder spots. It is quite distinct from *disjecta*, Kerr., a narrower and more convex species, with the red apical region less intensified.

## S. COERULEIPES, Saund.; var. MONTANA, n. var.

There is a variety of *coeruleipes*, Saund., which I have taken commonly at Medlow, Blue Mountains, and which only differs from the typical form in the presence of two additional oval postbasal yellow spots on the elytra, isolated and not continuous to the sides. These were compared by Mr. C. O. Waterhouse with Saunders' type, and returned with a note on this distinction. As this local variation appears to be constant, it is worth a name, and can be known as *montana*. I have the typical form from North Sydney.



## Subfamily CHALCOPHORINI.

Amongst the material sent from the National Museum, Melbourne, occur three new species, which are described below, together with a new *Chalcotaenia* taken in some quantity by Mr. H. Brown. Of these, *Chrysodema subfasciata* is the first record of a genuine member of this genus from Australia, *Chrysodema saundersi*, Macl., proving to be a *Cyphogastra*.

Synonymy.—*Cyphogastra pistor*, C. and G. = *Chrysodema saundersi*, Macl.

I have examined the presumed type of *C. saundersi* in the Macleay Museum, though, as usual with Macleay, it is not specially marked as such. There are also four specimens similarly labelled in the Masters Collection in the same Museum. They are all identical with *Cyphogastra pistor*, C. and G., except for slight individual differences incidental to all the species in this subfamily.

I have specimens of *Chrysodema aurofoveata*, Guér., from Banks Island, Torres Straits. It is, therefore, extremely likely to occur on the mainland, but I have not seen any other specimens besides those in my collection.

## CHRYSODEMA SUBFASCIATA, n. sp.

Pl. ix., fig. 2.

Elongate-ovate. Above blue-black with green or coppery impressions (in fresh specimen covered with yellow or orange flocculence), underside green or coppery, more or less obscured by yellow flocculence, legs and tarsi blue, antennae with three basal joints blue, the rest reddish.

♀. *Head* with triangular excavation on front, medial sulcus fine at base, deep on excavate portion: the raised parts irregularly punctate, epistoma with triangular excision at apex; antennae not quite extending to base of prothorax, third joint cylindric, as long as first, four-eleven subtriangular. *Prothorax* bisinuate at apex, feebly so at base, middle lobe of apex advanced and subtruncate, sides nearly straight, feebly sinuate near hind angles, all angles acute, the anterior depressed, posterior slightly produced; disc with a slightly raised medial convexity bounded by a rugose salcus on each side, an oblique flocculent impression partly following the front margin of anterior angles, and an oval patch behind this near the middle of each lobe; the smooth raised parts sparsely punctate, the sides rugose-punctate. *Scutellum* round, convex, smooth. *Elytra* subangularly widened at shoulders, sides nearly straight on anterior two-thirds, thence

narrowed behind; each apex with a fine sutural tooth, the posterior margins with about ten coarse serrations; disc vaguely striate-punctate near middle, scarcely costate, the convex intervals obscurely costate only near apex, the sulci between these showing some regular longitudinal series of large punctures, a wide sulcus inside the margins, and the following flocculent impressions: three small basal, four at margins (a circular one behind each shoulder extended forward along the marginal sulcus, and a large arcuate subfasciate postmedian patch on each elytron), and three linear subapical patches, lateral patches with darker yellow flocculence than the others. *Prosternum* sulcate, the walls of sulcus carinate; mesosternum widely concave, metasternum with narrow suture, the last two showing sparse punctures; first segment of abdomen with convex plate, slightly hollowed in the middle through the presence of series of deep elongate punctures, the second segment containing even larger elongate punctures, the apical segment with a feebly-raised medial carina, the greater part of underside obscured by yellow flocculence. *Dim.*,  $29 \times 10$  mm.

*Hab.*—North-western Australia: Roebourne. From C. French's Collection in National Museum.

♂. What I take to be a male of the above is a badly abraded specimen, the yellow flocculence scarcely evident, the impressions on upper-surface and the greater part of the underside coppery; the upper-surface is darker, nearly black, the large subfasciate elytral impression produced backwards on marginal sulcus, elytral intervals more costate behind, prothorax wider and feebly arcuate on sides. *Dim.*,  $34 \times 12$  mm.

*Hab.*—North-western Australia: Roebourne. From C. French's Collection in National Museum.

I believe the above to be the sexes of the same species, the main characters of structure and markings being the same. The female specimen was selected for close description, being a fresh specimen in good condition, while the male specimen is obscured and abraded by age or treatment. The fresh specimen shows a mixture of green and blue colour, while the older specimen is blue-black, with pronounced coppery markings. The semiseriate arrangement of elytral punctures is exceptional, at least in Australian species of the *Chalcophorites*. Types in the National Museum, Melbourne.

This is the first record of this genus from Australia, though I have specimens of *auroforeata*, Guér., from Banks Island, Torres Straits: *saundersi*, Macl., belongs to the genus *Cyphogastra*, though described as *Chrysodema*.

## CHALCOTAENIA CASTANEA, n. sp.

Pl. ix., fig. 1.

Widely navicular. Above nitid-castaneous, head and pronotum with iridescent, coppery, and violet reflections, apex of elytra with faint greenish reflections; head, depressions on pronotum and elytra filled with yellow pubescence, antennae reddish-coppery; underside and legs coppery, with white short pubescence.

*Head*, forehead concave, concavity broadened by rugose ridge, sulcate in middle, a small shining nodule on each side of sulcus, finely punctate at base. *Pronotum* trapeziform, feebly rounded at sides, anterior angles rounded, posterior acute, longitudinally sulcate in middle, and two wide longitudinal depressions, rest of surface irregularly rugose-punctate with smooth spaces near middle. *Scutellum* fiery-coppery. *Elytra* of male of same width as of female, considerably wider than prothorax at base, sides sinuately compressed behind shoulder, strongly serrated towards apex, with five wide and little-raised costae (including the sutural), the first, second, and fifth continuous throughout, the third starting from middle and joining the second towards apex, the fourth abbreviated, extending from humeral callus to halfway; a wide irregular depression extending from base to the starting-point of the third costa and expanding at base, the depression between the fourth and fifth costae widening at the apical third, the raised parts sparsely punctate. *Metasternum* coarsely rugose-punctate, prosternum and mesosternum much less so; abdomen with longitudinal nitid space sparsely punctate towards size, besides the nitid central costa, last segment of male with small irregular excision, of female apex produced into two blunt lobes. *Dim.*, ♂, 22 × 8 mm.; ♀, 29 × 10 mm.

*Hab.*—Western Australia: Cue (H. W. Brown).

Another of Mr. Brown's captures in this prolific region, and strikingly different from all described species in colour alone. The sculpture of the upper-surface is more irregular than in other species of the genus, being without well-defined pubescent spots, the usual position of these being merely indicated by enlargements of the longitudinal depressions, while the costae are only clearly carinate towards the apex. The apical process of the female is unusual. Type in the author's collection.

## PSEUDOTAENIA SPILOTA, n. sp.

Pl. ix., fig. 3.

Elongate-oval, robust. Head, sternum, and margins of abdominal segments coppery, pronotum and elytra dark-blue



with violet reflections, having white or golden impressions; underside and femora chiefly coppery-purple, the flanks of sternum and whole abdomen dotted with various-sized tomentose impressions; antennae, tibiae, and tarsi blue.

*Head* channelled and triangularly excavate, with wide irregular rugose sulci on each side of excavation, and some smooth spaces and finer punctures between the eyes; epistoma rugose with triangular excision in middle of front margin, antennae with joints three-eight subequal (apical joints wanting). *Prothorax* 9 × 12 mm., moderately convex, feebly bisinuate at apex, more strongly so at base, all angles acute, the posterior the wider (about 80°); widest at base, sides slightly sinuately narrowing to apex, extreme edge irregularly crenulate; disc with wide smooth medial convexity, with narrow sulci on each side of this terminating in a rugose space towards front angles, and three large depressions near margins (one near posterior angle) and smaller round foveae, irregular in size on other parts of disc. *Scutellum* small, transverse, biglobose, and smooth. Elytra wider than prothorax at base, basal margins strongly wrinkled, widest behind middle, margins sulcate within on basal half, becoming explanate near middle, strongly serrated posteriorly; apices with distinct sutural tooth and about seven small teeth on posterior serration; disc with four subobsolete costae, the first sutural, the second parallel to the first for the greater part, diverging towards the base, between these costae irregular rows of golden foveate depressions more or less clothed with white flocculence, those between the first and second costae elongate, those between second and third large, round, and distant, those between the third and fourth smaller and closer; a wide golden vitta occupying the space between the fourth costa and the margin, starting from the shoulder and terminating near apex, a few small punctures sparsely scattered on the smooth spaces round the humeral swelling. *Prosternum* saddle-shaped, with a few large punctures, mesosternum and metasternum and first abdominal segment channelled; the whole underside, except the smooth central parts, dotted with large irregular golden impressions, clothed with white recumbent hair, each segment of abdomen with a similar impression at the sides. *Dim.*, 46 × 16 mm.

*Hab.*—Western Australia: Shark Bay.

A single female specimen from the French Collection in the Melbourne Museum is quite different from all described species, and may be readily distinguished by the combination of large size, violet-blue colour, slightly-raised costae, wide marginal vitta, and irregularly spotted surface. Type in the National Museum, Melbourne.

## CYPHOGASTRA QUADRIVITTATA, n. sp.

Pl. ix., fig. 4.

Elongate-navicular. Upper-surface green, somewhat cyaneous on the raised parts, with lighter-coloured impressions, more or less filled with yellow flocculence; underside coppery on raised central part, green more or less obscured by yellow flocculence elsewhere; legs green (antennae and tarsi wanting).

*Head* triangularly excised, channelled at base, with a deep central fovea between the eyes, these bordered within by rugose-pustulose ridge; basal part sparsely punctate near middle, rugose-punctate behind eyes. *Prothorax*  $8 \times 11$  mm., depressed, strongly bisinuate at apex and base, all angles produced and acute, base with widely-rounded central lobe, widest at base, sides sinuate near both angles; disc with wide deep medial sulcus, a wide irregular flocculent impression, trilobed externally, occupying the greater part of sides, the raised part near centre sparsely punctate, at sides rugose-punctate. *Scutellum* rounded and depressed in front, bilobed and convex behind, with four punctures on anterior half. *Elytra* slightly wider than prothorax at base, angularly widening at shoulders and tapering to an acuminate apex from the middle, each apex subrectangular at suture, with about four strong serrations on posterior margins, each elytron with two wide impressed vittae, golden-green with yellow flocculence (where not abraded), the first extending from base to near apex, near and more or less parallel to the suture, the second near the margin starting behind the shoulder and extending to the apex, a large floccose impression at base near the middle of each elytron, a narrow lateral sulcus exterior to the second vitta starting from the posthumeral sinuation, and gradually widening and obsolescent towards apex, the suture convex on anterior half, narrowing and carinate posteriorly, with fine sparse punctures, the raised surface between the vittae having larger and more regular punctures, these gradually becoming obsolete towards apex. *Prosternum*, mesosternum, and metasternum widely sulcate; first abdominal segment with the usual convex plate at centre, rounded behind, acuminate in front, the smooth middle parts of underside finely and sparsely punctate, the greater part of the under-surface covered with orange-yellow flocculence. *Dim.*,  $40 \times 12$  mm.

*Hab.*—Western Australia: Carnot Bay.

A female specimen from the French Collection in the Melbourne Museum is the finest and most distinct species of the genus known to me. It may be at once differentiated

from the other described Australian species by (1) greater size, (2) by the four elytral vittae extending nearly the full length. Type in the National Museum, Melbourne.

## EXPLANATION OF PLATES.

### PLATE IX.

- |         |  |
|---------|--|
| Fig. 1. | <i>Chalcotaenia castanea</i> , Cart.     |
| „ 2.    | <i>Chrysodema subfasciata</i> , Cart.    |
| „ 3.    | <i>Pseudotaenia spilota</i> , Cart.      |
| „ 4.    | <i>Cyphogastra quadrivittata</i> , Cart. |
| „ 5.    | <i>Stigmodera porosa</i> , Cart.         |
| „ 6.    | „ <i>gigas</i> , Cart.                   |
| „ 7.    | „ <i>barbiventris</i> , Cart.            |
| „ 8.    | „ <i>gloriosa</i> , Cart.                |
| „ 9.    | „ <i>imperialis</i> , Cart.              |
| „ 10.   | „ <i>rufocyanca</i> , Cart.              |
| „ 11.   | „ <i>franca</i> , Cart.                  |

### PLATE X.

- |          |                                      |
|----------|--------------------------------------|
| Fig. 12. | <i>Stigmodera blackburni</i> , Cart. |
| „ 13.    | „ <i>alexandri</i> , Cart.           |
| „ 14.    | „ <i>rufolimbata</i> , Cart.         |
| „ 15.    | „ <i>browni</i> , Cart.              |
| „ 16.    | „ <i>desideria</i> , Cart., female.  |
| „ 17.    | „ „ „ male.                          |
| „ 18.    | „ <i>neglecta</i> , Cart.            |
| „ 19.    | „ <i>propinqua</i> , Cart.           |
| „ 20.    | „ <i>pisciformis</i> , Cart.         |
| „ 21.    | „ <i>argillacea</i> , Cart.          |
| „ 22.    | „ <i>serratipennis</i> , Cart.       |
| „ 23.    | „ <i>maculicollis</i> , Cart.        |
| „ 24.    | „ <i>haswelli</i> , Cart.            |
| „ 25.    | „ <i>lepida</i> , Cart., female.     |
| „ 26.    | „ „ „ male.                          |
| „ 27.    | „ <i>octocostata</i> , Cart.         |
| „ 28.    | „ <i>sexnotata</i> , Cart.           |
| „ 29.    | „ <i>attenuata</i> , Cart.           |
| „ 30.    | „ <i>planata</i> , Cart.             |
| „ 31.    | „ <i>acuticollis</i> , Cart.         |
| „ 32.    | „ <i>titania</i> , Cart.             |
| „ 33.    | „ <i>pulchella</i> , Cart.           |
| „ 34.    | „ <i>leai</i> , Cart.                |
| „ 35.    | „ <i>tincticauda</i> , Cart.         |
| „ 36.    | „ <i>notaticollis</i> , Cart.        |
| „ 37.    | „ <i>hirundicauda</i> , Cart.        |
| „ 38.    | „ <i>festiva</i> , Cart.             |